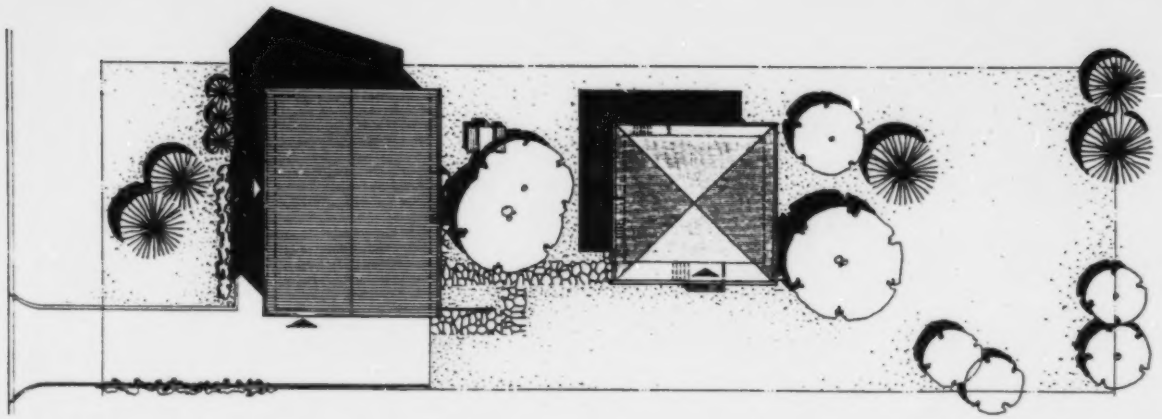
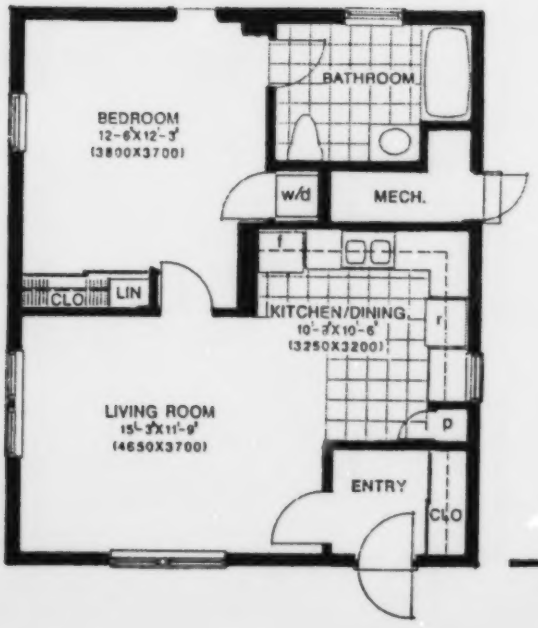


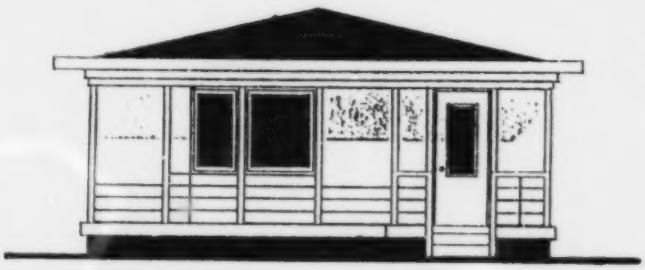
Ministry of Housing
Ontario

Portable Living Units for Seniors: The 'Granny Flat' Demonstration Project

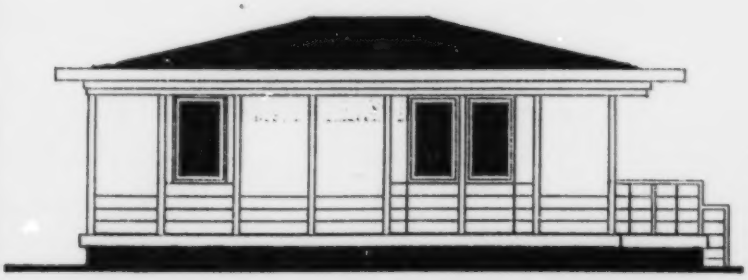
SUMMARY REPORT

JUNE, 1990





Front elevation



Side elevation

PORTABLE LIVING UNITS FOR SENIORS (P.L.U.S.) OR 'GRANNY FLAT' DEMONSTRATION PROJECT

SUMMARY REPORT

MINISTRY OF HOUSING
HOUSING SUPPLY POLICY BRANCH

JUNE, 1990

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PORTABLE LIVING UNITS FOR SENIORS

THE GRANNY FLAT DEMONSTRATION PROJECT

EXECUTIVE SUMMARY

This report documents the evaluation phase of the recently completed Portable Living Units for Seniors or 'Granny Flat' demonstration project. The project has demonstrated convincingly the feasibility in social and technical terms of the 'granny flat' (or 'garden suite' as they are becoming more widely known) concept in Ontario.

There is evidence of a strong potential demand for this innovative private market housing option within Ontario. As well, the manufactured housing industry has an interest and the capability to provide suitable units either for lease or sale.

With the completion of the demonstration the Ministry of Housing's role will now largely be to provide information about the concept to municipalities and the public and to develop ways of enabling municipalities to permit the use of garden suites while retaining appropriate controls on their use. In short the Ministry's role will be that of facilitator.

BACKGROUND

During the 1986-2011 period the population 65-and-over in Ontario is expected to increase by 86 percent, and will continue to increase through the early part of the next century. The implications of this anticipated growth in the elderly population has been widely discussed.

It is also widely recognized that elderly persons often face a limited number of housing choices, and that there can be a strong link between appropriate housing, the health of the elderly and their continued ability to live independently within the community.

The housing needs of fully independent elderly persons are generally well served by the housing market, or by subsidized housing where there is an affordability problem. What is in short supply, however, is an adequate range of semi-independent or interdependent living arrangements.

THE GRANNY FLAT OR GARDEN SUITE OPTION

One innovative, non-institutional approach developed most successfully in Australia and now spreading to other countries is the so-called 'granny flat' or 'garden suite'.

The 'garden suite' concept means providing a small, portable, self-contained housing unit on the same lot as the home of a close family member or friend. The units are portable so that when they are no longer required they may be removed and relocated to a new site.

By placing the portable unit occupants near another household - usually their close family - the garden suite living arrangement can provide the informal support, companionship and security which may be all many elderly persons require to remain in the community. At the same time both garden suite occupants and the host family retain their privacy and independence.

In many cases, seniors are currently living in houses that are too large for their needs and may be difficult and expensive to maintain. The 'garden suite' can provide these seniors with more suitable, compact living quarters, while allowing larger houses to be put to more appropriate use in the housing market.

THE PORTABLE LIVING UNITS FOR SENIORS (P.L.U.S.) DEMONSTRATION PROJECT

Because of the lack of precedents anywhere in Canada a demonstration project was considered necessary before the concept could be endorsed.

In 1984 the Ministry of Housing began the Portable Living Units for Seniors (P.L.U.S.) demonstration project, a small-scale (12 units) demonstration of the 'garden suite' concept. The P.L.U.S. project took place in three areas of the Province: Ottawa-Carleton Region; Sudbury Region; and the City of Waterloo. The purposes of the demonstration project were to:

- demonstrate an innovative 'market' housing alternative for independent seniors, and to work out both technical and regulatory details;
- take the initial risks involved in establishing an option which is acceptable to the local community, emphasizing the necessity to control occupancy and ensure relocation after the unit is no longer required by the occupant;
- evaluate the costs and the impacts associated with this housing option;
- examine the future potential for such an alternative, and to determine the appropriate role of the provincial government and the private sector in the construction, management and allocation of such units.

The demonstration comprised four phases beginning with the development of guidelines for the participants, choosing and enlisting three demonstration areas and designing and constructing twelve units. The second phase involved local working committees in the choice of suitable occupants and host families and the installation of the units. Phase three, the evaluation of the demonstration, was divided into four primary component studies: social assessment; technological research and assessment; planning/regulatory and legal assessment; and financial assessment. In addition, a market assessment was undertaken in conjunction with a national market survey done by Canada Mortgage and Housing Corporation in 1988/89.

SOCIAL ASSESSMENT

The social assessment revealed that, for almost all occupants and hosts, this living arrangement is very satisfactory. In fact, in a number of cases, it was said to enhance the well-being of occupants and to reduce the stress of caregivers. The support provided included transportation, telephone checks, visits, help with shopping and errands.

'Host' families reported the benefits of both increased companionship and services provided by the elderly occupant (such as child care and cooking).

Half of the occupants had relocated to a new community to be near their children. While there was an adjustment period associated with this relocation, the impact of the move was generally considered positive for all the occupants.

In some cases, the length of the application and planning approvals process did result in a certain degree of stress and uncertainty for both the occupants and their families. The need for the renewal every 3 years of the temporary use by-law, which permitted the installation of the units, was also a concern to some.

TECHNOLOGICAL RESEARCH AND ASSESSMENT

In general, the 'modular' demonstration units performed very well and the occupants have expressed high levels of satisfaction with the comfort and convenience provided. The successful relocation of four of the demonstration units has also proven their portability.

Minor changes recommended for the demonstration unit design include space saving suggestions, revising the ventilation system and providing more comprehensive 'barrier free' facilities (such as roll-out shelving, more grab bars, lever style taps, front controls on stoves, etc.).

On both aesthetic and technical grounds, the consultants strongly endorsed modular construction for garden suites. The advantages of other systems, however, should be recognized. In situations where site area and access is not a problem the 'mobile home' has potential to provide the most economical form of garden suite. 'Panelized' construction also offers advantages, particularly in terms of ease of transportation and in gaining access to the widest variety of sites.

PLANNING/REGULATORY AND LEGAL ASSESSMENT

The purpose of the Planning/Regulatory and Legal Assessment was to identify and evaluate alternative means of regulating garden suites and any pertinent legal issues.

A number of regulatory approaches were considered ranging from as-of-right zoning and comprehensive legislation to temporary use by-laws (the method used in the P.L.U.S. demonstration).

The consultants undertaking the evaluation concluded that while a number of these methods are workable solutions, licensing and a streamlined temporary use by-law process were likely to be the most acceptable from a municipal point of view within the Ontario legislative frame-work. However, the consultants also pointed out that given the diverse nature and varying resources of Ontario's municipalities, it is not necessary to employ a single regulatory approach province-wide.

The main legal issue associated with the garden suite concept concerns the difficulties, due to human rights legislation, of limiting the use of garden suites, to elderly relatives of the host household.

FINANCIAL ASSESSMENT

The financial analysis focused on two basic delivery models: first, private purchase and subsequent resale of units by individual families from a private sector supplier; and, second, rental or lease of units from either a non-profit housing corporation or private sector firm.

In terms of purchasing a garden suite, the potential net costs to the consumer may vary greatly depending upon a number of factors especially the length of time the unit is occupied. The costs of garden suites delivered by the private sector on a rental or leasehold basis are also difficult to predict.

It is expected that monthly costs for a rental unit will range from $700 to $1,000 per month. The cost to purchase a unit would likely be $30-$40,000 plus the cost of installation and services which are likely to range between $10,000 to $15,000.

From a consumer perspective, costs relative to other forms of housing (rest/retirement homes, seniors apartments or condominiums) will depend greatly on local market conditions and the availability of other alternatives. C.M.H.C.'s market survey also suggests that financial considerations may not be the prime component in the decision to choose this type of living arrangement.

MARKET ASSESSMENT

Through a market survey conducted for C.M.H.C. it was determined a solid market potential for the 'garden suite' existed within Ontario with 40 percent of the elderly households having one or more children with a suitable 'host' property. Obviously, this housing option will not be preferred by all such households. However, if just 2 percent of this total number of households chose a garden suite then 7,000 units would be required within the province. Of the 1962 potential garden suite hosts interviewed within this survey, 89 percent of those interviewed stated that they were impressed by the garden suite concept.

CONCLUSIONS

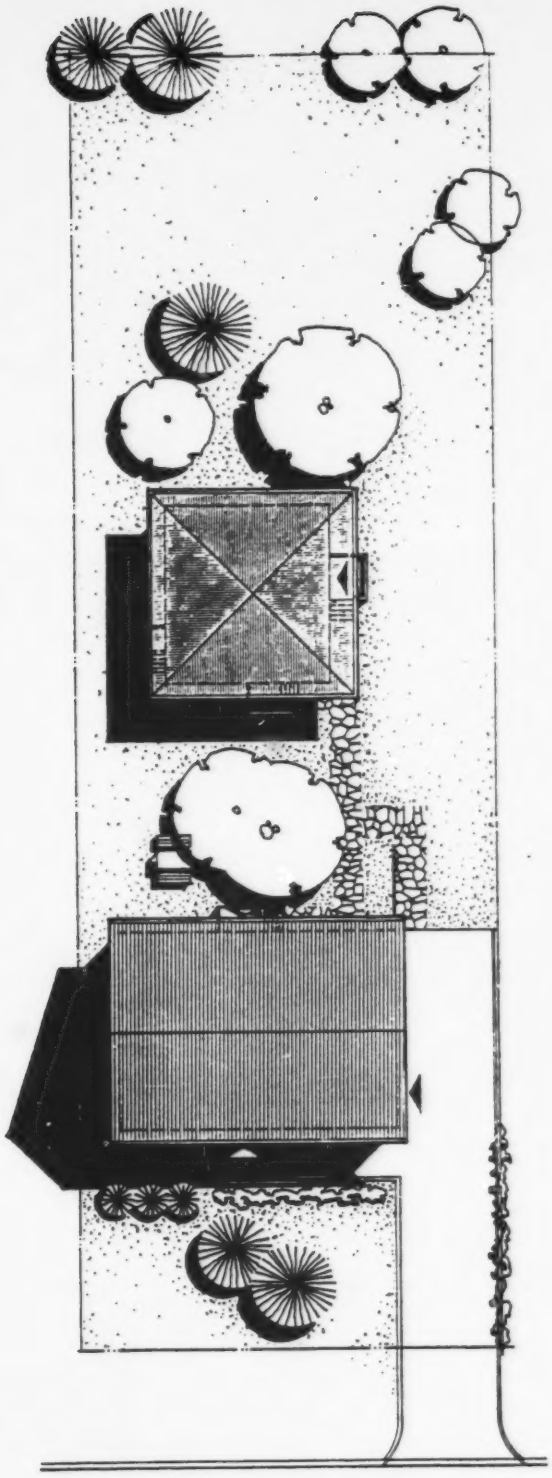
The P.L.U.S. demonstration project has demonstrated convincingly the feasibility in social and technical terms of the garden suite concept in Ontario. A very high level of satisfaction was expressed by the occupants and their host families, by municipal officials and a large majority of neighbours.

There is evidence of a strong potential demand for this innovative private market housing option within Ontario. The manufactured housing industry has shown an interest in this market and has demonstrated the capability to produce suitable units for either lease or sale.

The demonstration phase having now been completed, the Ministry of Housing will now assume a facilitating role. The most significant impediment to the widespread use of garden suites remains effective regulation. Presently, there are few options by which municipalities can permit garden suite installations while retaining adequate controls. The province will, therefore, act to amend pertinent legislation (i.e. the Planning Act and/or the Municipal Act) to provide appropriate means to regulate this form of housing.

The Ministry of Housing will provide information and advice to interested citizens, municipalities and the manufactured housing industry.

A demonstration project to examine the feasibility of including garden suites in federal-provincial housing programs (non-profit and rent supplement) has been proposed by the federal government.



Suburban Waterloo site

SIMON
ARCHITECTS & PLANNERS
FOR
ONTARIO MINISTRY OF HOUSING

INTRODUCTION - THE GARDEN SUITE CONCEPT

Basic Characteristics

The "garden suite" concept is simply that of providing a small, portable, self-contained housing unit for an elderly person(s) on the same lot as the home of a close family member or friend[1]. The units are portable so that they may be removed and relocated to a new site when no longer required.

The garden suite is distinct from other forms of accessory housing in that it is detached, temporary, and entails some kind of occupancy restriction based on a supportive relationship between the two households.

This living arrangement offers a number of potential benefits, some of which are unique to garden suites, others which would be common to a broader argument for a second unit policy:

- facilitates the provision of support, companionship and security to the elderly occupants of the unit by the younger host household, while allowing both households continued independence
- provides a healthy aging environment which may delay or preclude need for institutionalization;
- to the extent that the family provides necessary care to the elderly, may reduce demands on community services;
- to the extent that this living arrangement may prevent or forestall need for accommodation in a home for the aged, or nursing home, it will reduce demands on these already overburdened services;
- helps to intensify the existing housing stock by freeing up under-utilized housing as seniors move to smaller, more appropriately-sized units;
- land and infrastructure are also intensified by placing a second, portable unit on an existing serviced lot;
- frees equity for elderly households if moving from larger ownership housing forms
- as units are installed only on a temporary basis, they do not alter the character of existing neighbourhoods.

---

1 The PLUS demonstration required that the unit occupants be the parents (or parents in law) of the owner of the main house and property

Precedents

The broad concept underlying the garden suite living arrangement is not new. Many cultures have understood the need for separate but close living quarters for the elderly members of their family. In Ontario, for example, Mennonite communities in Kitchener have small dwelling units on their land for elderly relatives. In Pennsylvania as well, the Amish have traditionally constructed "Grossmuter" or grandmother houses on their farms.

The idea of using portable housing, installed on a temporary basis for this purpose was first introduced in Australia, where it has been successfully implemented under the State of Victoria's "Moveable Units" or 'Granny Flats" program since 1975. The program was begun in an effort to meet the rapid increase in the number of seniors and consequent demand for seniors housing. It was implemented directly by the State government which funded the construction and installation of the units, and introduced legislation which effectively made garden suites a permitted use in most municipalities.

The program was originally conceived as an assisted housing program, but over time has also provided for privately financed units for those able to meet the costs. The State, however, retains legal control of all units through a system whereby ownership of privately financed units must be transferred to the state which will in turn later 'purchase' these units on a pro-rated basis from the family when they are no longer required. These units then become part of the assisted housing stock.

The Moveable Units Program has grown slowly over the period that it has been in operation and currently involves a total of approximately 3,000 units. Community acceptance of this land use generally appears to have been good. There has recently been discussion of expanding the eligibility criteria to include a range of other types of dependent households.

The concept has also generated considerable interest in the United States, where it is known as ECHO housing, ECHO standing for Elder Cottage Housing Opportunity. In the early 1980's, the American Association of Retired Persons (AARP) developed a set of construction and installation guidelines and a discussion of legal and regulatory issues, and the U.S. Department of Housing and Urban Development (HUD) undertook a study of economic and land use issues. However, despite this interest and the considerable attention that the idea has received in the media, a number of attempts by both the private and voluntary sectors to implement the concept have so far been largely unsuccessful.

The reasons most often cited for the failure of attempts in the United States to develop garden suites as an widely available housing option are the inflexibility of land use regulations, an unfocused or inadequate marketing approach, and the fact units have only been available as an ownership option - and not on a rental or leasehold basis.

Rationale and Policy Context for the Portable Living Units for Seniors (PLUS) or "Granny Flat" Demonstration Project

The difficulties which had beset U.S. efforts to develop the garden suite concept suggested that if the concept were to be successful in Ontario, it would require a strong leadership role to be played by the government. In 1984, the Ontario Ministry of Housing decided to explore the feasibility of this type of land use through a small scale demonstration project. The decision to proceed with the demonstration project was reinforced by the fact that the garden suite concept tied in with three more general areas of policy development where the Ministry was already active: residential intensification; expanding housing choices for seniors; and, product development in the manufactured housing industry.

Residential Intensification

Residential intensification is a general term which describes a number of ways in which the existing housing stock and infrastructure can be re-used, modified or added to in order to create additional housing units. Since the early 1980's the Ministry has been active in the promotion and study of residential intensification to meet a variety of housing policy objectives: neighbourhood revitalization; the potential for inexpensive rental housing production; and, most relevant to the garden suite concept, increasing the flexibility of the existing housing stock and infrastructure to meet the range of housing needs in the community.

As outlined above, garden suites help to intensify the existing housing stock and infrastructure in two ways: 1) since the units are installed on existing residential properties, they can take advantage of existing hard and soft services; 2) as many elderly occupants will be moving from large single family homes - often unsuited to their changing needs - these dwellings then become available for younger, growing families who can make better use of this housing.

Expanding Seniors Housing Choices

The anticipated growth of the elderly over the next four decades has been well documented and widely discussed. During the 1986-

2011 period the population 65-and-over is expected to increase by 86 per cent, and will continue to increase through the 2011-2031 period as the "baby boom" starts to become the "seniors boom". As a proportion of the total population, seniors currently account for 11 per cent of the population; this will rise to 16 per cent by the year 2011 and roughly 24 percent by the year 2031. The highest growth rates will be in the over-75 and over-85 cohorts, with an attendant increase in the demand for health and social services.

At the same time as demographic pressures are building, it is widely recognized that the elderly often face a limited number of housing choices, and that there can be a strong relationship between appropriate housing, the health of the elderly and their continued ability to remain in the community.

The housing needs of the fully independent elderly are generally well served by the housing market, or by subsidized housing where there is an affordability problem. What is in short supply, for both seniors with an affordability problem, and for those with other housing difficulties, is an adequate range of semi-independent or interdependent living arrangements. Garden suites are one of a number of living arrangements which can meet this type of need. By placing the elderly unit occupants in close proximity with another household - usually their close family - the garden suite living arrangement can make available the informal support, companionship and security which may be all many elderly households require to remain in the community.

Product Development in the Factory-Built Housing Industry

Finally, the seniors housing market was seen as one that could potentially be important to, and well served by the factory built housing industry in Ontario. Encouraging the use of factory built housing to provide relatively low cost housing in retirement communities was one way in which the province worked toward this objective (i.e. Seniors Retirement Community Demonstration Project), the garden suite demonstration was another. Although garden suites were not seen as likely to be a particularly large part of the factory built housing market, they nonetheless represented a new market. However, for a number of reasons, it seemed unlikely that, on their own, the industry would be able to afford to take the risks involved in establishing a garden suites as a new use for their product.

DEMONSTRATION PROJECT DESIGN

The PLUS demonstration was designed to meet a number of broad objectives:

- to demonstrate an innovative housing alternative for independent and semi-independent seniors, and work out both technical and regulatory details;
- to take the initial risks involved in establishing an option which is acceptable to the local community, in particular emphasizing the necessity to control occupancy and ensure relocation after the unit is no longer required by the occupant;
- to evaluate the costs and impacts associated with this housing option;
- to examine the potential for such an alternative from the perspective of future users and industry; and,
- to examine the possible roles of the public, private and voluntary sectors in making this option available to Ontario's elderly population and their families.

To achieve these objectives the project has followed a four phase approach:

Phase I

The initial stage involved a considerable amount of groundwork in determining the planning and regulatory approach to be adopted, building political and neighbourhood support for the concept in the three demonstration areas (The Regional Municipalities of Sudbury and Ottawa-Carleton and the City of Waterloo), and the design and construction of twelve demonstration units (four in each demonstration area).

The architects commissioned to undertake the design study (Simon Architects and Planners) sought input from both consumer and industry panels. They determined that in order to secure public and neighbourhood acceptance for the concept it was essential that the units be attractive and unobtrusive so that they blend in with the surrounding landscape. Providing design features which accommodate the special needs of the elderly and meeting high standards of construction and energy efficiency were two additional criteria. Several designs were developed from which two prototypes were chosen, a one person unit of 530 square feet and a two person unit of 680 square feet.

A tender call for the construction of the twelve demonstration units was issued in 1985. This tender was open to all types of portable housing manufacturers (i.e. modular, manufactured (mobile homes) or panelized construction). Based on a review of the proposals submitted, the construction contract was awarded to two modular housing manufacturers. Unit costs in 1985 for the two designs were $34,100 and $39,800 respectively.

Phase II

To implement the project locally, working committees were established in each of the municipalities participating in the demonstration. Drawing representatives from the ministry, municipal councils, municipal planning departments and local seniors groups, the committees have been primarily responsible for generating and selecting applicants. The first units were installed and occupied in the fall of 1985. To date four units have been relocated.

During the demonstration, the units are owned and maintained by the province, and licensed to the host property owners at a fee equivalent to that of the average rent for the nearest market alternative, defined as a one bedroom apartment in the demonstration area. The fees were set in 1985, and are in the $300 - $335 range.

Phase III

The formal evaluation of the PLUS project has been undertaken as four primary component studies: technological research and assessment, social assessment, planning/regulatory and legal assessment, and market assessment. The latter was undertaken in conjunction with a national market survey done by CMHC in 1988/89. Detailed summaries of each of the component studies are presented in subsequent chapters of this report.

Phase IV

The final phase of the demonstration project, of which this report is the first component, consists of reassessing and clarifying the potential roles of the public, private and voluntary sectors in the future development and delivery of this type of housing.

SOCIAL ASSESSMENT

The social assessment focused on occupants, "host" families and neighbourhoods, including detailed profiles of each group and an assessment of the social impacts of the move to and occupancy of garden suites on each group. The study also addressed questions concerning the availability of community support services, the design of the units and the application and approval process.

The study sample comprised 13 occupants (of whom 10 were female) averaging 77.5 years of age, 11 host families, neighbours of 10 units, and 11 non-participants (persons who had expressed serious interest in participating in the demonstration but for various reasons, had not.)

Occupants

Most of the occupants were in reasonably good health although many reported chronic health problems such as arthritis or high blood pressure. Three were confined to wheelchairs. Only one required extensive assistance. Some claimed their health had improved after moving into the unit, due to enhanced emotional well-being. All but two had been living independently in a house or apartment before moving to the garden suite and half of them said they would have moved into a seniors' apartment building if the garden suite option had not been available. (However, according to some of their children, the seniors would have had to be accommodated in a nursing home or home for the aged. So the occupants' and hosts' perceptions of the seniors' ability to function independently differed somewhat.)

The primary reasons for choosing the PLUS unit were: proximity to family and availability of family support when needed. Half of the occupants had relocated to a new community to be near their children. Despite initial unhappiness due to relocation for some, the social impact of the move was considered generally positive for all. They expected to remain in their units longer than would have been feasible in a completely independent living arrangement. Affordability was not an issue in the majority of cases. (However, it must be remembered that the rents for the demonstration units are well below current market values.)

Host Families

5 of the 11 host families were located in rural areas, 3 in suburban areas and 3 in urban areas. The age of the adult host family members ranged from 30 years (in the case where the host family was headed by the grandchild of the unit occupants) to 60 years.

A common and significant characteristic of the host families was that the primary caregiver to the elderly relative was always a female, generally a full-time homemaker. Host families were generally closely knit, extended families who engage in a great deal of community activities.

The social impact of the program on host families was perceived as very positive, in many cases reducing their stress levels, since before the installation, some had to travel extensively to provide support to parents. Another positive impact reported by families was that they benefited from both the increased companionship and the services provided by their elderly relative (e.g. child care and cooking).

The support provided by families included transportation, telephone checks, visits, help with shopping and taking their relative(s) to appointments. This support was not perceived by caregivers as a burden; instead, it was viewed by the majority as a normal and rewarding part of family life (although no families as yet had reached the point of "role reversal" with very frail elderly parents relying on their adult children for daily care.)

Initial expectations about the arrangement had been met for most and exceeded for some. The only reason given for possibly moving out of the unit was deterioration of occupants' health. The only source of disappointment had to do with delays and other minor snags in the process of installation and, in one case, the hostility of neighbours.

Installation of the units did not result in any negative financial impacts on host families in the demonstration project.

Neighbours

Except for two cases, close neighbours did not see the presence of the units as a source of problems. Most had been notified about the installation by the host families, had sought more information, and were in favour of it. One relationship was strained due to a mistake on the part of the contractor in locating the PLUS unit. This resulted in minor damage to the neighbour's property and a dispute about a fence which was removed and relocated. In another case, neighbourhood opposition was organized and unwavering, even after an O.M.B. hearing had ruled in favour of the unit installation.

The areas of initial concern expressed by neighbours prior to installation were:

- adverse effects on the resale value of neighbouring properties

- aesthetics
- permanency of zoning changes
- the thin end of the wedge i.e. this was an intrusion into a single-family residential area and as such set a precedent for other land-uses or other forms of "intensification".

These initial concerns had been largely dispelled at the time of the study and neighbourhood acceptance of the project was generally favourable.

Non-Participants

Eleven families who had made serious requests for information about the demonstration project, but who had not participated, reported that the intended occupants were primarily in the middle-old age bracket (75-85), lived in their own homes or apartments, most were widowed and in good health, and most needed some assistance. Their profile, therefore, was quite similar to that of the demonstration sample. The reasons they had not participated in the project included: deterioration in physical and/or mental health and/or placement in a special facility; and desire to be with age peers.

Community Support Services

Participants were not fully aware of, nor had they made much use of, community support services at the point when the social assessment was carried out, although such services were available in the communities. This is not surprising for several reasons: the occupants had moved into their suites less than two years before the study; they were in generally good health at the time of relocation; they were in a living arrangement which is based on the assumption of family support; and they were members of closely-knit families where their psycho-social needs seemed to be met within the family unit.

Unit Design

In general, the unit design was assessed as satisfactory by the participants. The kitchen and bathroom were considered conveniently located, and the provision of grab bars in bathrooms a very positive feature. In some instances, features had been added, such as an intercom to the host family, window locks at top and bottom and metal plates on each side of a wooden door (for wheelchair wear). All of the occupants claimed that the garden suite provided them with adequate privacy, and almost all were satisfied with the comfort and independence afforded by the unit.

Application and Approval Process

The application and approval process varied somewhat from area to area. Because of the small number of units available very little publicity was given to the project and most applicants became aware of the availability of units through newspaper accounts of Ministry staff presentations to Regional or local Councils. Some families complained about the length of the entire process. The need for a systematic and streamlined approach, especially to the re-zoning process, is covered in detail in other parts of this report.

The Social Assessment report noted that in every case the actual application was initiated by the host family. However, this was almost certainly because a fundamental first step is for the host property owner to request re-zoning to permit the unit installation. Of the many hundreds of general enquiries received by the Ministry perhaps two-thirds were from prospective host families and a third from occupants.

PLANNING/REGULATORY AND LEGAL ASSESSMENT

The planning/regulatory and legal assessment component of the evaluation of the PLUS project was carried out jointly by the firms of Allen E. Brass and Associates Inc., Consulting Urban and Regional Planners, and Weir and Foulds, Barristers and Solicitors. This work involved an evaluation of the regulatory and legal mechanisms employed in the PLUS demonstration, and identification and discussion of alternative regulatory approaches and key legal issues. In addition, as part of their evaluation work, the consultants interviewed members of the working committees in the three demonstration municipalities and undertook a survey of municipal attitudes and concerns among elected and non-elected municipal officials in municipalities not involved in the PLUS demonstration.

Legal issues

A number of legal issues emerged from the consultants' analysis of the garden suite concept which are largely independent of the specific approach taken to land use regulation: these are the issues of controlling occupancy, ownership of garden suite, landlord and tenant problems, ownership of the host property, contract rights and municipal tax assessment.

Occupancy

Restricting access to elderly, family members, poses problems both with respect to the Canadian Charter of Rights and Freedoms and the Ontario Human Rights Code. In the opinion of the consultants undertaking the legal analysis, it may be possible to defend a restriction based on the age of occupants under the affirmative action provisions of the Charter (preferential treatment of persons over 65 is permitted under the Code), but occupancy could not be restricted based on family status. This means, at a minimum, that the garden suite concept would have to be opened up to elderly non-family members of the host family. (It is worth noting that the legal aspect of this question aside, there is considerable evidence which indicates that for many elderly, key support roles in their social networks are played by non-family members. [2])

Ownership of the Garden Suite

The ownership of the garden suite may be vested in a public authority or private enterprise supplier, rather than the occupants or owners of the host properties. No particular legal problems are posed by this ownership factor. The only potential problem is whether the garden suite is classified as personal property (chattel) or a fixture. An agreement registered on title could

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2 Leroy O. Stone, Family and friendship ties among Canada's seniors, 1988.

stipulate that the unit is not to be treated as a fixture, and thereby avoid any difficulties.

Design and Construction Standards

No particular legal problems are posed by the establishment of standards for design and construction of garden suites if this is deemed necessary. These standards can be specified by provincial statutory regulations as a special class of building under the Ontario Building Code.

Landlord and Tenant Problems

The various relationships between the owner of the garden suite, the owner of the host property and the occupants of the garden suite are unclear with respect to the applicability of the Landlord and Tenant Act and the Residential Rent Regulation Act. A judicial or legislative response may be required before the exact nature of these relationships vis-a-vis this legislation is established.

Ownership of the Host Property

If the occupant of the host property is a tenant and not the owner, then the owner must consent to the installation and occupation of the garden suite. The occupant of the garden suite will want statutory or contractual protection from the consequences of any default under the lease by the occupant of the host property. The occupant of the garden suite will also want such protection if the occupant of the host property is the owner of the land, but the land has been mortgaged. In this case the mortgagee should consent to the installation and occupation of the garden suite in order to avoid any argument that there has been a breach of the mortgage. It may well require statutory law to provide these rights to the occupant of the garden suite under these circumstances.

Contract Rights

All of the parties to a garden suite installation will require contracts to govern their mutual obligations. A key recommendation in this regard is that legislation be introduced to specifically authorize municipalities or other public agencies to enter into such contracts in order to avoid any argument that such action is ultra vires.

Because there are many different ways to deal with the numerous matters to be addressed, the consultants suggest that it may be advantageous to introduce a standard form contract by statutory regulation as part of the amendments to the Planning Act or garden suite legislation. The contract could deal with such items as:

- qualifications for occupancy
- the rent to be paid for the unit
- the repair and maintenance of the unit
- rights of inspection
- promises of quiet enjoyment of the unit
- promises not to remove, alter or damage the unit
- the provision of services
- easements for the provision of services
- easements to allow access to place or remove the unit
- responsibility for realty tax
- responsibility for utility and service costs
- insurance
- noting that the unit is not a fixture
- the consequences of default
- the termination of the agreement
- the preparation of the site for the unit
- the removal of the unit
- the restoration of the site after the unit is removed

Municipal Tax Assessment

Unless special legislation is enacted, a garden suite would be assessed for reality tax purposes and the burden of the tax would fall on the owner of the host property. It would be a matter of agreement between the host property owner and the garden suite occupant how this burden should be shared. Since this additional financial burden could be a deterrent to many individuals wanting to make use of this type of housing, the assessment implications need to be carefully addressed and special exemptions may be warranted. Some host property owners may be eligible under existing programs which provide tax exemptions for improvements undertaken to accommodate an elderly or disabled person who would otherwise require some type of institutional care.

Planning and Regulatory Control Options

The consultants identified five regulatory approaches which could be used to regulate garden suites.

(a) Site Specific Temporary Use By-laws;

(b) Official Plan Policy Statement and As-of-Right Zoning;

(c) Site Plan Control;

(d) Legislation Enabling Municipalities to Enact Licensing By-laws for Garden Suites; and,

(e) Garden Suite Legislation.

Site Specific Temporary Use By-laws

The Temporary Use By-law (TUBL) provisions under Section 38 of the Planning Act were used to permit the installation of all of the units in the PLUS demonstration (with the exception of one case where the unit was permitted under existing zoning). Municipalities involved in the demonstration were encouraged to use alternative approaches, but none were apparently available which gave the desired degree of control over this land use.

The consultants found that TUBL process worked well in a number of ways. Being similar, in most respects, to a standard re-zoning application both the municipal officials and politicians were completely familiar with all aspects of the process. However, several problems emerged which have the potential to seriously inhibit the development of the Garden Suite concept.

First the TUBL process is inevitably fairly lengthy, including as it does a public hearing, opportunities for appeal, etc.. Some municipalities have additional requirements beyond the minimum requirements set out in the Planning Act, which further protract the process.

Secondly, because of the length and complexity of the process the cost in terms of staff time can be significant. While this might not be a problem for small numbers of units such as the demonstration provided, a larger scale program would probably meet with municipal objections on this point. Delay and uncertainty regarding final approval are also stressful and frustrating for the applicant, and can make such practical matters as the sale of the occupant's home and making arrangements to move more difficult.

Thirdly, under the current provisions of the Planning Act, a TUBL can be passed to authorize the temporary use of a building for a period up to a maximum of three years, with a right of extension by passing a further by-law. This means that the process would have to be repeated every three years, which significantly adds to the administrative burden on municipalities. A further problem is that the families and occupants of the garden suite have no real security of tenure under this approach, although it would seem unlikely that a local council would not renew the TUBL if the unit was being used as intended.

The consultants suggest that the TUBL process could be improved by shortening notice times, reducing the area embracing those entitled to notice, reducing time periods for appeals to the O.M.B., and extending the time for which the approval is applicable prior to the requirement for an extension.[3]

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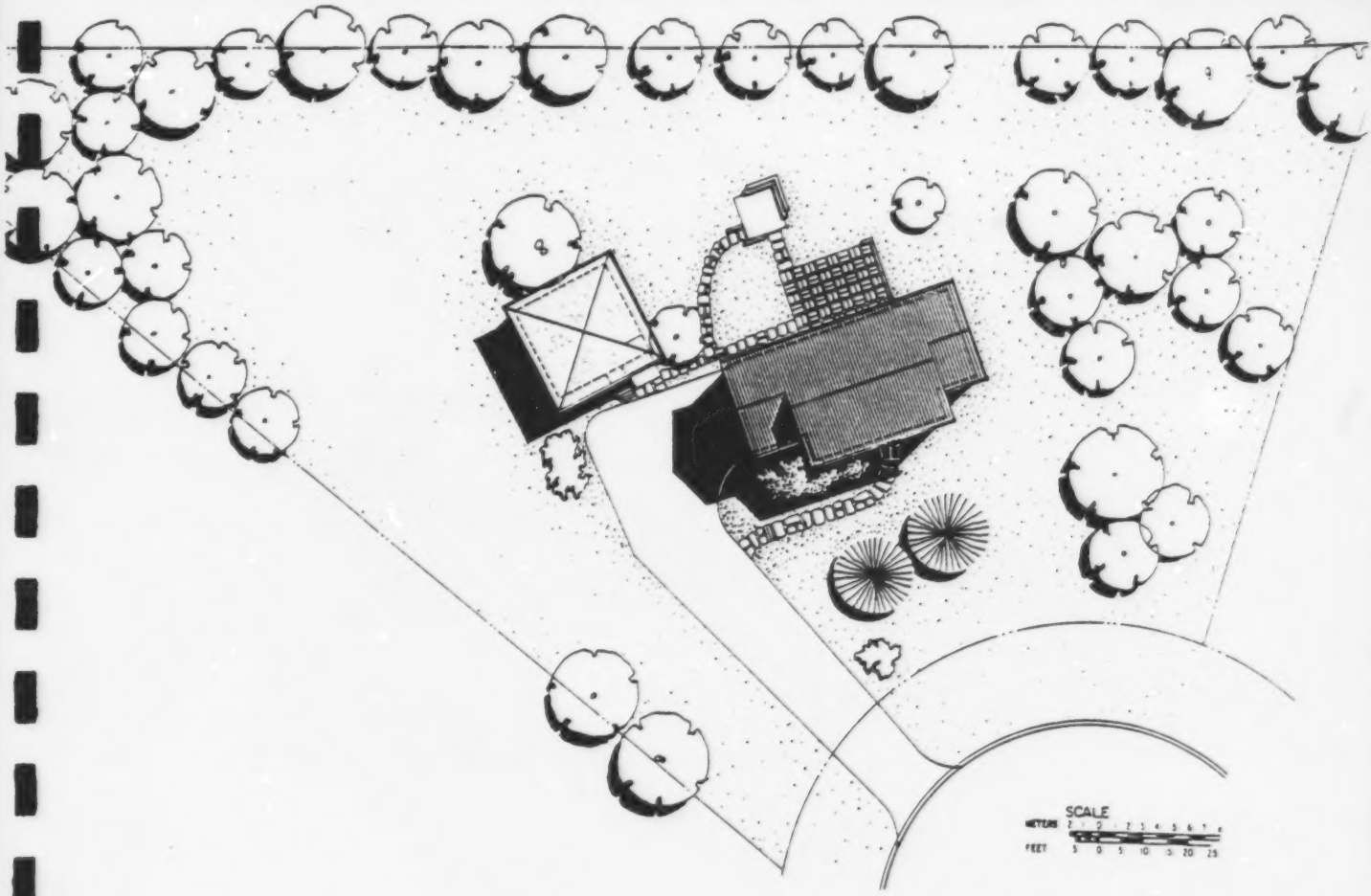
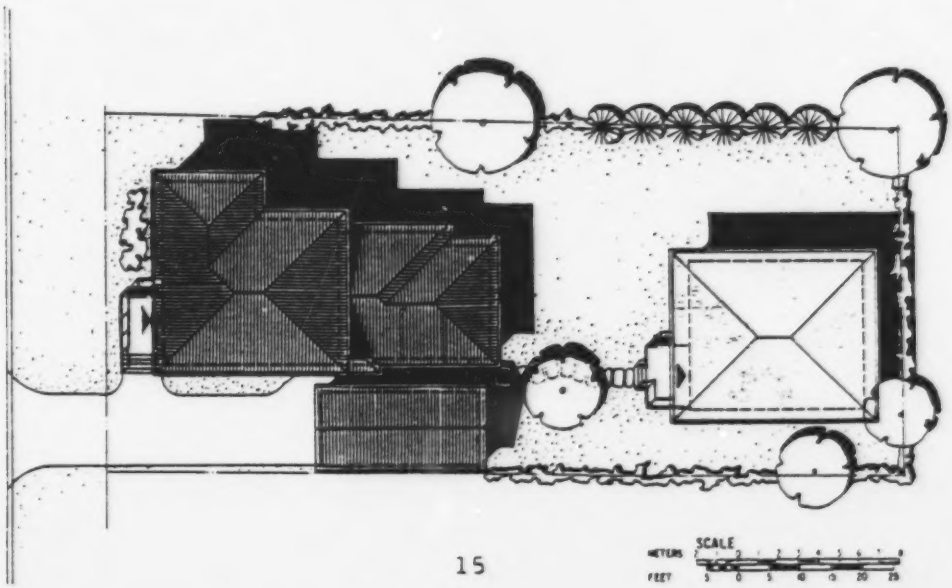
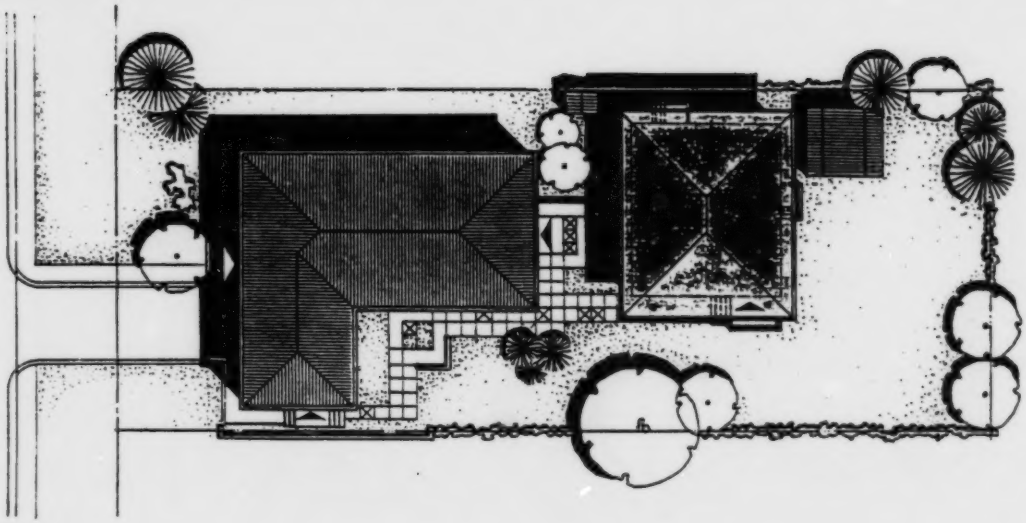
3 Since the consultants' report was completed minimum notice and appeal periods under the Planning Act have been shortened from thirty days to twenty days.

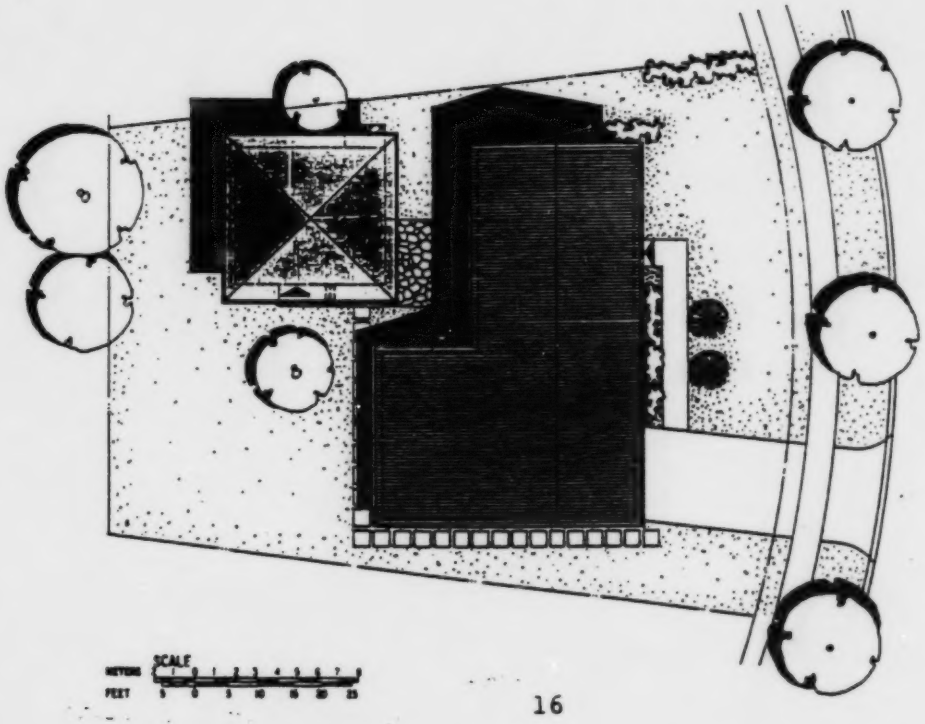


Two contrasting sites in Waterloo: above a large (1 acre) suburban site; below an urban site - installation was possible only because access was available from the rear.





Two suburban sites in the Ottawa region. Both installations were difficult and required large cranes because of narrow sideyards.



Official Plan Policy Statement and As-of-Right Zoning

Under this approach, municipalities would enact amendments to their Official Plans to include policy statements relating to the criteria to be met for Garden Suite installations. The Comprehensive Zoning By-law would then be amended to enable units to be erected on lots of specified zoning categories and meeting stipulated minimum sizes. All of the performance standards for garden suite installations would also be stipulated including such matters as setbacks, distance from the principal dwelling and total lot coverage.

The Official Plan and Zoning By-law amendments would be processed following the statutory requirements of the Planning Act for notice and public hearings. Once these amendments were in place, it would be possible for garden suites installations to be made as a matter of right where the criteria in the Official Plan and the standards in the Zoning By-law can be met.

The major advantage of this method of implementation is that although the initial process is lengthy and involves public hearings and possible appeals or referrals to the Ontario Municipal Board, once the plan and zoning is in place then it becomes a short and certain process to implement the garden suite concept for any particular application. This advantage is important because the speed of processing and the removal of doubt as to whether a person qualifies have been identified as important factors in the overall success of the garden suite concept.

The major disadvantage of this method is that public participation is restricted to the general level and is not available at the particular level of each installation. This disadvantage is significant because meaningful participation at the neighbourhood level has been identified as a positive factor in the general success of the demonstration projects in Waterloo, Sudbury and Ottawa-Carleton.

Site Plan Control

The preceding "as-of-right" approach could be supplemented by the requirement for site plan control. This approach could allow for neighbourhood participation on an information-giving basis where neighbouring residents are not entitled to appeal to the O.M.B. or on an approach that would entitle the right of neighbouring residents to appeal to the O.M.B. The latter alternative would necessitate amendments to the Planning Act to allow standing for neighbouring residents and to stipulate such matters as time periods for notice, the types of conditions that may be imposed as part of the site plan process, and the identification of those who would have the right of appeal to the O.M.B.

The major advantage of this approach is that it would provide for neighbourhood participation on a site-by-site basis. The major disadvantage would be the degree of uncertainty of obtaining approvals, and the likelihood of substantially longer time periods for approvals. It should be noted that if neighbouring residents are given the right to participate by statute but not the right of appeal, the equality of provisions of the Charter arguably would be offended by granting appeal rights to some but not all interested parties.

Legislation Enabling Municipalities to Enact Licensing By-laws for Garden Suites

This method of implementation would necessitate the zoning of land for garden suites on either a site-specific or "as-of-right" basis following which an applicant would be required to obtain a license from the municipality in order to install a unit. This licensing by-law would enable the municipality to control the qualifications of those entitled to occupy garden suites and could impose limits on the number of such units to be installed in the municipality or parts of it.

The regulations attendant to the enabling legislation could include optional or mandatory provisions relating to the need for notice of the intent to enact such by-laws, requirements for hearings in respect of each license application, requirements for renewal of licenses, the opportunities for neighbourhood participation and whether or not objectors or applicants would have any rights of appeal.

Comprehensive Garden Suite Legislation

Comprehensive legislation has the advantage of bringing together the land planning mechanisms with all of the other aspects of garden suite installations and thereby avoid the difficulties and complexities of introducing amendments to the Planning Act, Municipal Act, the Assessment Act, and the Building Code Act. This legislation could override existing Official Plan and Zoning By-law provisions that would stand in the way of garden suite installations. It could make it mandatory for municipalities to issue building permits for garden suite installations provided that they adhere to the requirements of regulations that supplement the legislation. Such regulations would deal with site planning, use, occupancy and unit removal requirements, as well as matters to be included in agreements or licenses to be executed between the unit occupants, host property owners, the agency owning and installing the garden suite, and the municipality.

Evaluation of Regulatory Options

The five planning/regulatory options were evaluated on a comparative basis using ten criteria.

a) ability to control occupancy;
b) degree of ability to ensure a temporary period of unit placement;
c) degree of ability to ensure removal of units when no longer needed by elderly occupants;
d) degree of allowance for an appropriate level of public participation;
e) degree of assurance of adequate standards to govern the installation, maintenance and removal of units;
f) degree of complexity and time frame for the regulatory and approvals process;
g) degree to which regulatory approaches depart from conventional land use planning practices in Ontario;
h) degree to which the impacts of proliferation or concentration can be adequately monitored and controlled;
i) degree to which consistency in processing applications will be ensured; and
j) degree to which special manpower and other administrative costs will be required.

Each of the five planning/regulatory control options were evaluated with respect to these criteria on a three point scale (poor, fair, good). It was clear from the consultants' ratings that the site-specific temporary use by-law, licensing by-law and comprehensive garden suite legislation approaches satisfied more of the criteria with "good" ratings than was the case for the "as-of-right" zoning and special site plan control approaches. It must be noted, however, that many of the criteria for which these latter two approaches were rated as "fair" or "poor" constitute matters that can readily be addressed in agreements required to supplement the regulatory controls. When that factor is taken into account the variations in the overall ratings for all five approaches are not very great.

The diversity of sizes of municipalities and the variations in their administrative and financial resources indicate that the same regulatory approaches need not be utilized by all municipalities. Nor did the consultants consider that it was necessary to initiate a province-wide garden suites programme with legislation that exempts this form of housing from conventional approvals procedures. It was considered essential, however, that the Province establish a regulatory environment that would enable municipalities to enter into contractual arrangements and issue licences for the use and occupancy of garden suite installations in order to enable them to exercise control over those matters that cannot be properly included in zoning by-laws.

TECHNOLOGICAL RESEARCH AND ASSESSMENT

The technological assessment component of the PLUS evaluation was undertaken by the firm of M.M. Dillon Ltd., consulting engineers and planners. The assessment was comprised of two main parts:

- a technical evaluation of the performance of the twelve plus demonstration units and their suitability for a large-scale program;

- an assessment of portable building technologies to compare the modular system chosen for the demonstration with other available or emerging methods.

Unit Design

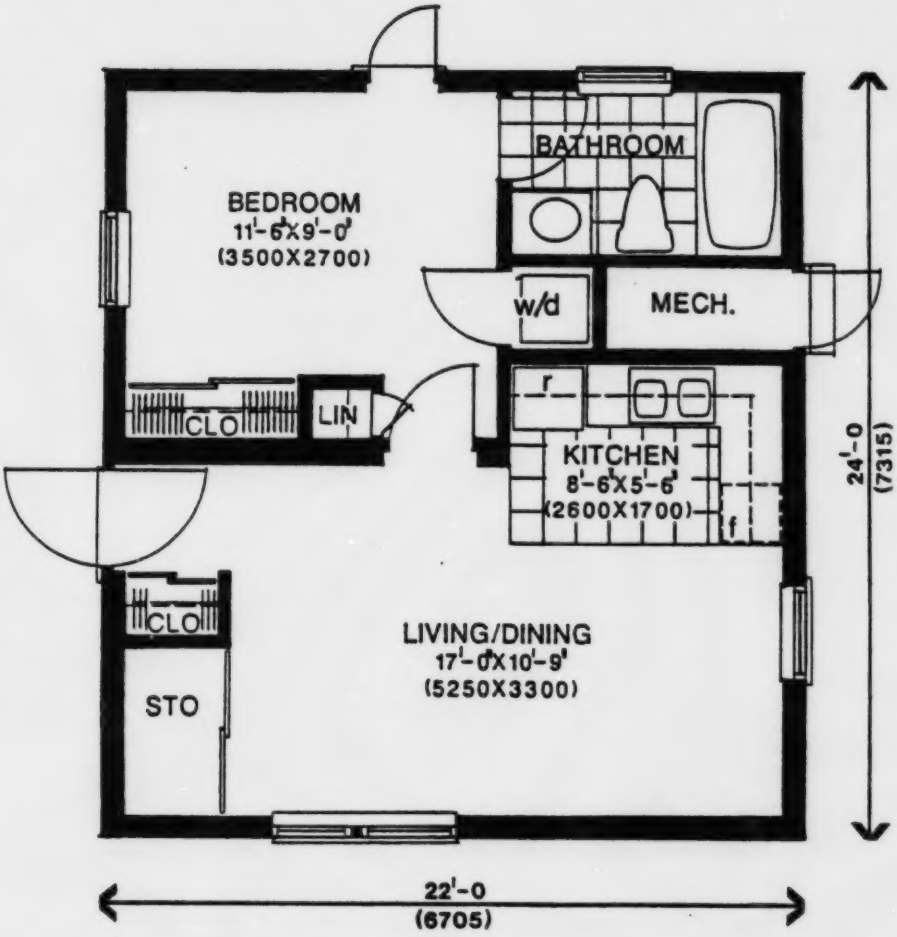
Aesthetics

The challenge of the demonstration unit design was inherent in the definition of the PLUS unit as a "temporary, movable, detached dwelling unit....situated on the lot of the host household".

Product image was seen from the outset as key to public acceptance. "Temporary and movable" were product characteristics traditionally linked with mobile homes which, despite efforts by the manufactured housing industry, still convey a negative message to many Ontarians. The PLUS unit had to avoid a temporary appearance. It had to look like a place where a senior would want to live and that the host family would accept into their backyard.

Just as important, to defuse neighbours, apprehensions about negative impacts of the units on property values in the area, it was essential to create a dwelling which would be an attractive addition to any residential setting. The decision was therefore made to create a building that was more of a landscape element than an architectural statement; the unit was designed to be seen as, in the words of the architects, Simon Architects and Planners, "a pavilion in the garden".

The design which emerged has rough-sawn cedar exterior which can be finished in a variety of semi-transparent or opaque stains, and a low-slope cottage roof with generous overhangs. The positive response received from the general public and those families who have been selected as host households for the aesthetic success of the units,. In fact, the architects received a design award for the PLUS unit from the Canadian Wood Council.

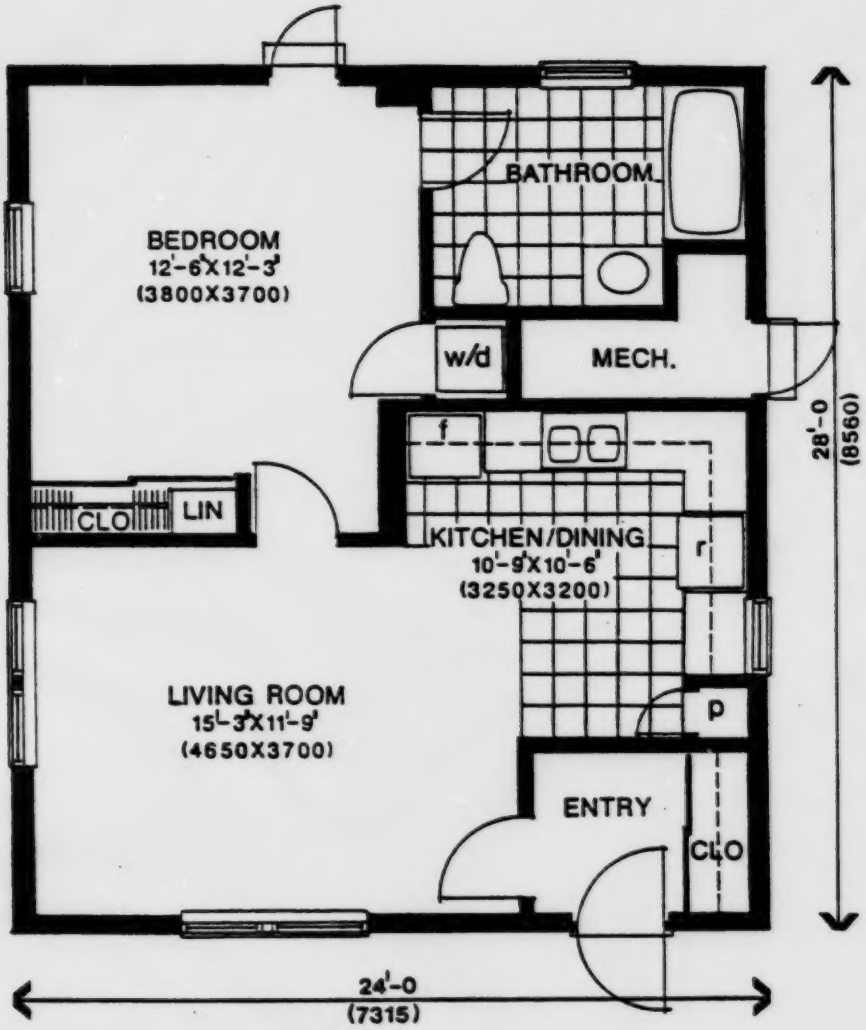


PLAN
ONE PERSON UNIT
PLUS PROJECT

SIMON
ARCHITECTS & PLANNERS

92 SHAFTESBURY AVENUE
TORONTO ONTARIO M4T1A5
416·323 9645

Ontario Ministry of Housing



PLAN
TWO PERSON UNIT
PLUS PROJECT

SIMON
ARCHITECTS & PLANNERS

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TORONTO ONTARIO M4T1A5
416-323 9645

Ministry of Housing
Ontario

Potential Construction Methods

In choosing the construction method to be employed in the PLUS demonstration, the first step was to review and evaluate the available methods of construction. The key factor in selecting a construction system was the requirement of portability. The units had to be capable of being relocated to new sites on repeated occasions during the life of the unit with a minimum cost and damage to the unit or the host properties. Prefabricated dwellings are not normally constructed to be removed from a site and re-used; even mobile home are rarely moved.

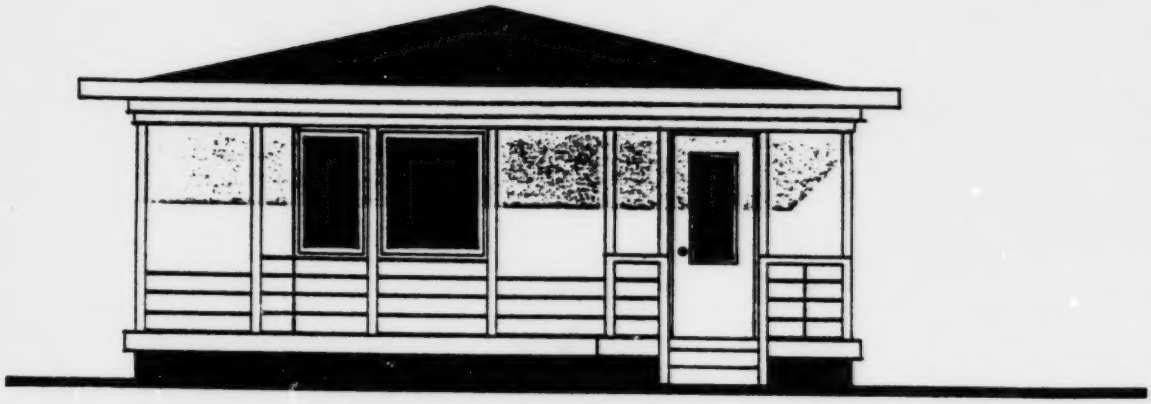
Other important factors which were evaluated included the assurance of a high quality of construction with a minimum of on-site supervision, the initial capital cost of the unit and cost of relocation. The method of construction had to be applicable in different parts of Ontario, and the speed of erecting the units on-site was a consideration. At the time of the design study the capacity of the prefabricated construction industry to produce units built to the specified quality was unclear and required study.

Preliminary industry review by Simon Architects and Planners identified three basic types of industrialized buildings to investigate in detail: mobile homes, modular or sectional forms of construction, and panelized construction.

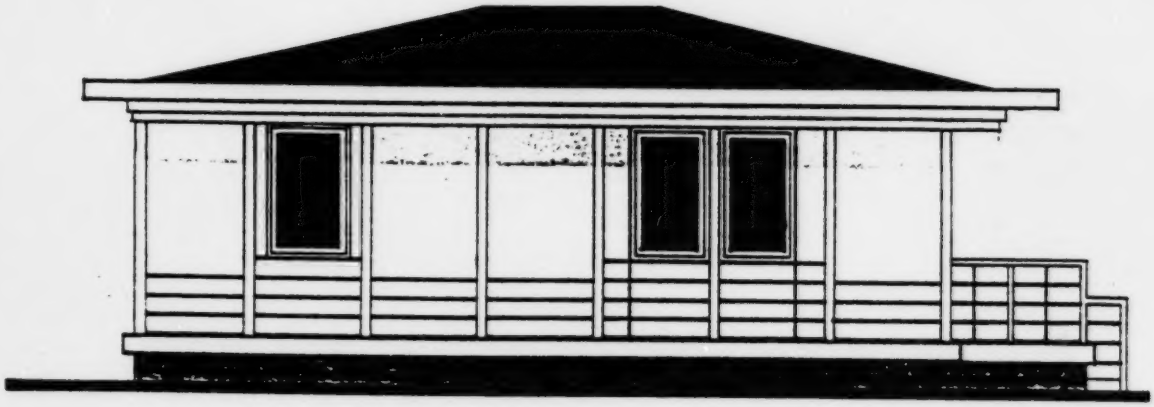
Mobile homes, also called manufactured homes, are characteristically not mobile but tend to remain in one place once delivered to the site. They have traditionally provided a low cost housing option and are more numerous in the western provinces and in the United States. (Their continuing evolution is making it increasingly difficult to distinguish these units from a modular or sectional construction in terms of materials and methods of construction.

Modular or sectional construction forms are essentially the same. Both involve the factory fabrication of a unit designed to meet requirements for production-line assembly and transportation by road to the chosen site. The sectional home is constructed of one unit. Both comprise not only the shell of the dwelling interior finishes and fixtures. They are generally built of slightly modified standard frame construction.

Panelized construction comprises either factory or site fabrication of panels to a given modular size (e.g., four-foot wide wall, floor and roof sections.) Alternatively, sections of walls, floors, etc. may be prefabricated.



Front elevation



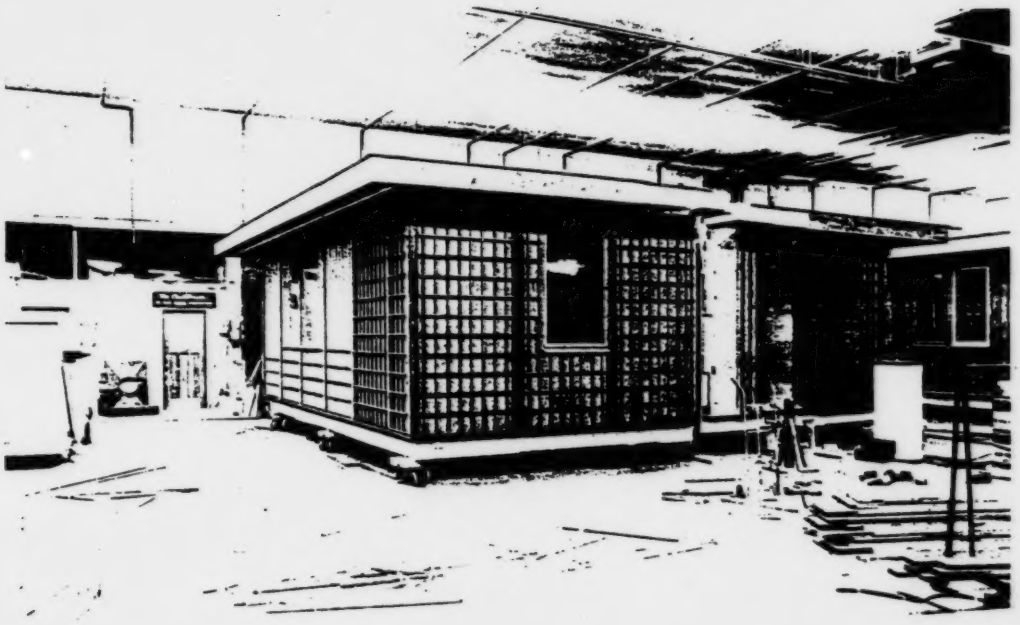
Side elevation

ELEVATIONS
TWO PERSON UNIT
PLUS PROJECT

SIMON
ARCHITECTS & PLANNERS

92 SHAFTESBURY AVENUE
TORONTO ONTARIO M4Y1A5
416-323 9645

Ontario Ministry of Housing



PLUS 'granny flat' units under construction in Morewood Industries' plant

One 'module' of a demonstration unit ready for transportation from the factory to its first site

The panels may be non-structural and may be joined to the structural frame on site, or they may incorporate all structural requirements thus speeding erection. With some important exceptions, interior finishes, plumbing, wiring and ductwork are not generally incorporated during panel fabrication. The main advantage of a panelized system is that it will permit access to a wider variety of site conditions.

The feasibility of conventional site-built (so-called "stick-built") units was also recognized if the design could thoroughly accommodate the need for units to be dismantled and re-assembled. However, this method has many potential disadvantages and was never seriously considered for the Ontario PLUS demonstration. (See further discussion under the Portable Building Technologies section).

The terms of reference for the PLUS design study include the difficult requirement for a design equally capable of being built by any of the three major methods (mobile, modular and panelized) as the method had not been pre-selected. The eventual decision to proceed with modular construction was, in fact, made as part of the construction contract award process in which both of the successful bidders (one for nine units, another for three) were modular builders.

If the architect had been able to work with a specific manufacturer from the beginning of the design process there is little doubt that some rationalization of the design would have resulted in some cost savings and the elimination of some minor faults and misunderstandings. For instance, the joint between the two halves modules of the 1-person unit crosses the living room and kitchen floors which means that floor finishes can only be installed after the unit is placed and joined, and are caused during relocations.

Layout / Accessibility

Approximately twelve preliminary designs were prepared by the architects and reviewed by Ministry staff and by industry and consumer panels. Two similar, basically square, designs were chosen because they were preferred by the reviewers in terms of layout and because the shape was considered the most versatile for a variety of sites.

The 62.4 sq. metre (672 square feet) two-person unit meets Ministry standards for senior citizen accommodation (including wheelchair accessibility) except long-term storage. It was felt that infrequently used and bulky items could, if necessary, be stored in the "host" house. The 49.1 sq. metre (528 sq. ft.) single-person was reduced slightly below ministry standards to create a unit which could be more readily installed on a variety of smaller sites.

The PLUS units contain a separate bedroom, full bathroom and a combined kitchen, dining area and living room. Fittings include kitchen cabinets, stove and refrigerator. Dishwashers and clothes washers and dryers were not fitted but space was provided and plumbing "roughed in". The kitchen and bathroom have vinyl floor finishes and all other areas are broadloomed. The heating is by electrical baseboards and a heat recovery ventilator was fitted to ensure positive ventilation (see discussion below). 30 gallon electrical water heater is provided.

Energy Efficiency

Knowing that acceptance of the PLUS units depended on a very high level of comfort, and that running costs would also be of concern, the decision was made to aim for very high insulation and air tightness standards for the prototype demonstration units. Insulation values are R. 40 for the ceiling, R. 27 for the walls and R.34 for floor areas. Air tightness is provided by polyethylene air vapour barriers and 'Tyvec' air-barriers. Windows are double-glazed casements (triple-glazed in Sudbury)

The theoretical tightness of the units meant, however, that attention was necessary to ventilation to ensure good internal air quality. A heat recovery ventilator (HRV) providing positive ventilation with minimum heat loss was therefore provided in each unit. Whether such efforts are economically justifiable has not been completely resolved. The units are judged to be comfortable by their occupants and performed reasonably well on air tightness tests that were undertaken after they had been occupied for between six months and two years. However, tests indicated that the HRV's were mainly responsible for the actual performance of the units falling well below the theoretical. The basic problem was that oversized HRV's had to be used as no appropriate sized unit was available at the time the PLUS units were built. Further, rather than a conventional ducting system which would have made tuning and damping the HRV flows easier, the whole utility room was used, in effect, as a plenum chamber. This did not work well mainly because of inadequate attention to airsealing the utility room with the result that fresh air volumes drawn into the unit were far too high.

The consultants undertaking the technical evaluation recommended eliminating the HRV in the future units and substituting conventional bathroom and kitchen extractors fans. However, depending on the level of understanding on the part of the occupant about the need for fresh air, this method may not be completely reliable. Also, downsized HRV's are now available. One of the demonstration units has been retrofitted with good results and further units may be modified as they are relocated or when otherwise undergoing maintenance work.

Unit Installation

Installation Methods

The methods used for installing garden suites are related mainly to the type of construction chosen and the degree of accessibility to the site. In the case of the PLUS demonstration all but two of the sixteen installations (12 original sites plus 4 relocations) were made using cranes. There are a number of advantages and disadvantages to this method and the potential problems were underestimated during the demonstration.

The use of cranes is most appropriate for modular or sectional units on sites where access is not particularly difficult (e.g., a side yard too narrow for direct access, but where there is an otherwise relatively short distance to lift the unit from trailer to foundations. In such cases installations can take place quickly, inexpensively and with remarkably little evidence of construction activity on the site.

The proper use of cranes also subjects units to less stress than most other methods. However, when longer distances, obstructions or other problems require the use of very large cranes, there is considerable potential for damage to the landscaping, driveway or, even the structure of the host or neighbouring properties. In addition, there may be damage to the municipal sidewalks and disruption of traffic including public transportation. Lastly, larger cranes and more complicated access situation can add considerably to installation costs.

For sites where access is not a problem, installation by such methods as rolling or jacking are, generally the most economical. However, regardless of the method use, constant site supervision was found to be essential for all aspects of the installations. Although a certain amount of expertise exists in the modular and mobile homes industries, garden suite installations are unique in that they involve work on established landscaped properties and not on raw building sites. Coordination, care and the use of specialized but relatively simple equipment are essential to avoid unnecessary damage or complications. the same caution applies to the items discussed below, foundations and services.

Foundations

The objectives of foundations for garden suites should be obviously, to provide adequate support and encourage for the unit but also to permit installation and eventual removal economically and with the minimum of disruption to the "host" site. This can be achieved with careful use of hand-held augers or the lightest available construction equipment.

Unless the contractor is made directly responsible for damage caused the tendency is for inappropriate conventional heavy equipment to be used for minor excavations, concrete pouring and grading etc.

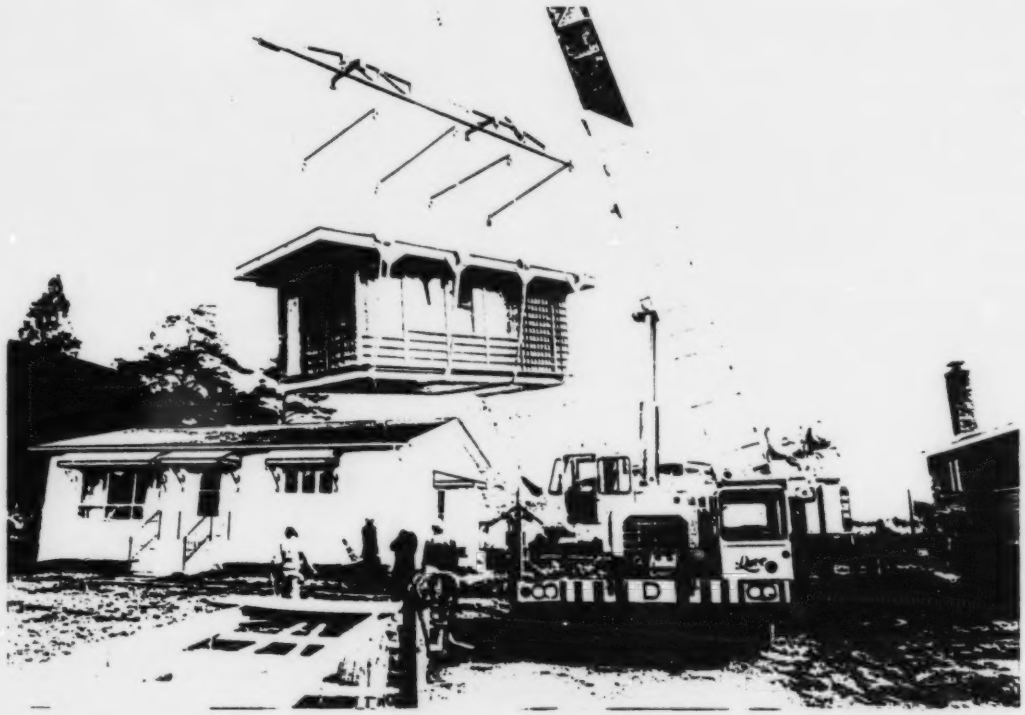
A number of different foundations systems were employed in the PLUS demonstration. The foundations designed for the PLUS demo units were simple posts, either concrete or pressure treated wood posts set in a concrete footing. The latter method generally worked well as the posts can easily be levelled and also provide useful support for skirting material. Some minor variations were tried. One unit was installed on very shallow foundations comprised of solid concrete blocks on pre-cast slab footings placed on shallow (6-9 ins.) excavations filled with compacted gravel. This is a method commonly used for portable classrooms and mobile homes but because of the probability of frost heaving should only be used on well drained soils not susceptible to frost. Another variation involved augering holes to below the frost line, installing 'sona' tubes and pouring concrete to within about 3 inches below grade. Solid concrete blocks were then placed on top of the post which remained in place when the unit was subsequently relocated.

One interesting idea which was mentioned by a potential contractor but not pursued involved a patented recoverable foundation in the form of a steel auger. This device could be screwed into the ground and at the time of relocation could be unscrewed and re-used. If the cost of such a system are not excessive, it would have several advantages over conventional methods including minimal disruption to the site during both the installation and removal processes.

Services

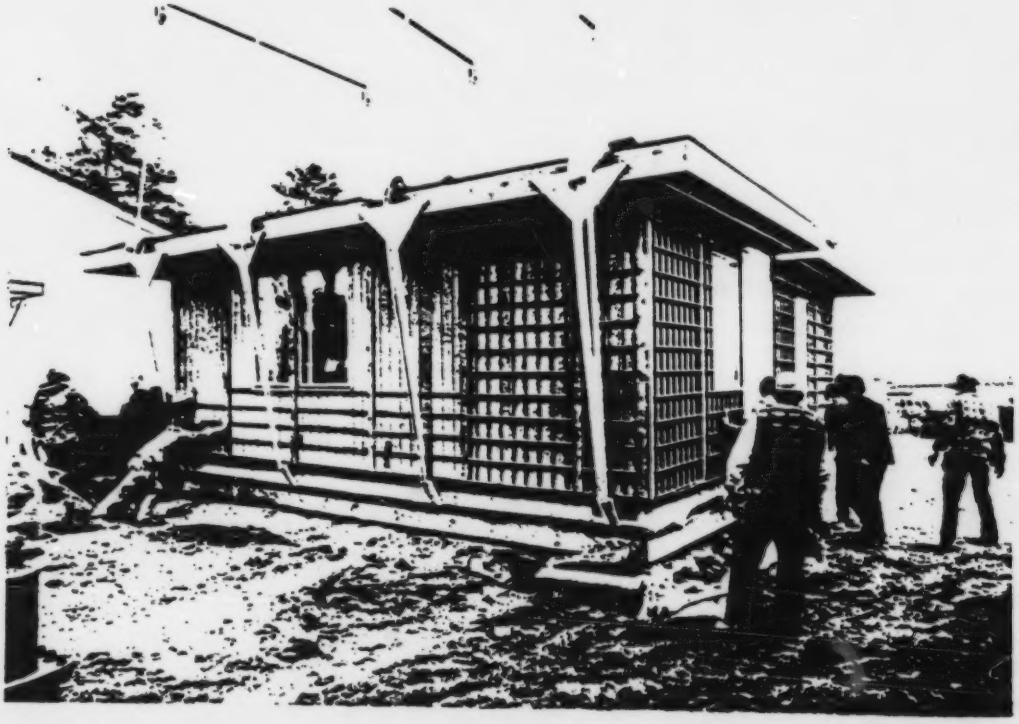
Water sewage and electrical services to the PLUS demonstration units were provided by connecting into the existing services in the host house. In the case of the water and sewer service, no serious problems were encountered regardless of whether the host house served by piped municipal systems or private wells and septic systems. It was necessary in a number of cases where gravity flow could not be achieved to provide sewage pump in the PLUS unit. Otherwise, problems were related to decisions as to whether to bury the services below the frost line in the conventional way or to attempt a less disruptive, though initially more expensive, shallow buried insulated, or utilidor approach. Both basic approaches were tried and worked successfully. However, each individual site involves economic and technical trade offs between the installation method preferred, and the siting of the unit which can facilitate or otherwise access to services.

To provide electrical service to the units proved somewhat more problematic than the piped services. The units, being electrically heated, required a 60 amp service. In fact some local hydro utilities insisted on 100 amp service. Few host houses have excess capacity of this order. Therefore, in most cases a larger panel had to be provided in the house or an entirely new service. In most cases, but not all cases, the existing service was underground and the PLUS units, therefore, had to be adaptable to either. In some cases, lengthy underground service added significantly to the installation costs. As well there were some local inconsistencies in the application of standards relating to hydro services including, conduits and exterior cut-off switches.



Crane installation of the first demonstration unit in Vars near Ottawa

First 'module' of demonstration unit placed on post foundation



The second 'module' being installed

Conclusions

- No insurmountable technical problems were experienced during the demonstration

- A number of minor modifications could easily be made to the prototype units which would improve them and/or reduce costs

- Reductions in cost could also be achieved by:

  - economics of scale, ie. build many more units;
  - reducing some standards specified for the demonstration (e.g. reduce insulation standards);
  - modifying certain components (e.g. use gable roof rather than hipped).

- More attention should be given to providing a "barrier-free" interior environment (ie. specify newer type faucets, roll out shelving and storage etc.)

- Further research and development on foundation and services systems will necessary to find the appropriate least invasive, most economical solutions.

- Remaining technical problems should be solved as more experience is gained and as specialist personnel and specialized equipment become available. It must be recognized that conventional construction equipment and techniques are generally not appropriate on landscaped sites in established neighbourhoods.

- Though it is possible to install a garden unit on practically any lot with the necessary area, very large cranes or other extreme methods measure should only be used after assessing the costs and risks involved. The development of an appropriate unit (e.g. a truly relocatable panelized model) is the preferable solution for inaccessible sites.

Portable Housing Technology Assessment

The consultant's study reviewed four alternative portable housing technologies which could be used in the construction of garden suites: modular, panelized, mobile home and high tech". Of these categories, only the various "high tech" construction methods such as geodesic domes, "containerized" and collapsible" buildings, were ruled out as possible methods for use at this time.

All three other methods were considered feasible methods for the construction of garden suites, though each has specific advantages and disadvantages which should be considered:

Modular Construction

Advantages:

- o good quality;
- o relatively little time required for installation;
- o minimal interior finish work required;
- o adaptable to a wide range of unit designs, sizes, shapes and materials.

Disadvantages:

- o relatively high transportation costs (particularly important with respect to serving areas remote form the manufacturer);
- o installations in the range of sites that can be served (i.e. relative to panelized construction).

Panelized Construction

Advantages:

- o lower transportation costs;
- o lower storage costs;
- o access to a greater range of sites;
- o less disruptive to site.

Disadvantages:.

- o more on site work required;
- o potential problems meeting high thermal standards or maintaining the integrity of the exterior shell due to the number joints between panels;
- o relocation and refurbishing costs may be higher.

Mobile Homes

Advantages:

- o where access is not a problem, relatively easy installation;
- o as units are generally comprised of only one module, less need for unit refurbishment as a result of relocation;
- o no requirement for crane installation;
- o lower per square foot construction costs.

Disadvantages:

- o standard mobile home appearance or proportions less acceptable in residential areas;

- o very limited range of layout due to relatively fixed proportions;
- o typically lower thermal standards;
- o limited access to more difficult sites.

Hybrid Designs

As experience is gained, and , if the demand for units expands, it seems likely that units which do not fit present categories may be developed. For instance, one Ontario firm has recently begun to provide modular units with a steel under-frame similar to a mobile home. For sites with easy access this unit can be delivered and installed as a 'mobile', while for more difficult sites the same unit would be treated as a typical modular and installed by crane. The use of the steel underframe can facilitate the transportation of the modules, and for sites the same unit would be treated as a typical modular and installed by crane.

A panelized design could also be conceived which for accessible site would be assembled in the factory either complete or as large components, but for difficult sites shipped as panels and assembled on site.

Site-built

In addition to the four categories of construction methods considered by the consultants study, it should be recognized that conventional site-built or "stick-built" units are also feasible if the design thoroughly accommodates the need for the unit to be dismantled and re-assembled. Units could be constructed to permit dismantling as panels or modules, however, there would appear to be few real advantages to this approach.

The main disadvantage to this method is that unless the details of construction are thoroughly documented, or the unit is relocated by the same contractor which built it, a subsequent contractor may run into difficulties in disassembling the modules or panels, resulting in high relocation costs.[4] The time spent on the site,

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[4] In fact, site-built units are the most common method of construction employed in the very successful 4,000 + movable unit program in Victoria, Australia. However, since any portable unit is likely to be relocated a number of times during its economic life, ease and economy dismantling and re-installing are critical. In the Australian program, relocation costs have often been close to 50% of the original construction costs. Further, some units have had to be scrapped because of damage sustained during dismantling and removal (often as a result of the relocation contractor not knowing how the original unit was constructed).

and the potential for site damage and disruption would obviously be far greater than any of the prefabricated methods.

Conclusions

Both the consultants undertaking the technical assessment and those who undertook the initial architectural design study concluded that at this time, modular construction is the method of construction best suited to the garden suite concept. However, each method has specific advantages and disadvantages with respect to the particular application (e.g. location, site condition, economy importance of exterior appearance). Ideally, a range of units would be available which would enable to the most appropriate and economical unit to be chosen for a given site. While the modular units built for the PLUS demonstration performed in general very well, alternative deigns and materials can certainly be made available. For instance, a number of alternative designs for garden suites were also developed in conjunction with the CMHC/CMHI display and market survey project undertaken in 1988/89. Two of these designs, which were built using mobile home construction techniques, were included along with the PLUS unit design in background material sent to respondents in the market survey. The ability of the mobile home industry to produce units which are residential in appearance and appealing to potential consumers is apparent in that both designs were generally rated more favourably than the PLUS unit (which, as noted has previously been well received by occupants and neighbours alike) by the survey respondents.

The requirement for garden suites to be relocated a number of times during their economic life is unique to this type of residential building, regardless of the method of construction employed. Typically, portable housing units are moved only once from the factory to the site. The adequacy of current standard for factory-built housing to ensure their relocatability and to include emerging materials and methods such as closed panel design should be examined, initially by the Ontario Buildings Branch.

CMHC NATIONAL MARKET SURVEY

In order to avoid duplication of effort, the market assessment component of the PLUS evaluation was carried out in conjunction with a national market survey undertaken by Gallup Canada Inc. for the Canada Mortgage and Housing Corporation. The survey focused on concept awareness, consumer acceptance and potential demand in a sample of 1,962 potential hosts and occupants across the country. Results presented below are based on a random sample of 258 potential occupant and 376 potential host households in Ontario.

The survey population for the study was selected using a random telephone sampling technique. Respondents were initially telephoned and screened for eligibility according to the following criteria:

1. Potential hosts: head of household aged 18 - 59; have one or more parent(s) aged 60 years or older; own a detached or semi-detached home; have a suitable lot size (large enough to accommodate a separate building the size of a double garage); and agreed to participate in the study

2. Potential occupants: sixty years of age or older; have children who have a detached home with suitable lot size; and agreed to participate in the study

Participants who met these criteria and agreed to participate in the survey were then mailed out an information package describing the garden suite concept and subsequently contacted to complete a half-hour telephone interview.

Key Findings

Level of Awareness

Approximately 39% of respondents (both host and occupant samples) were aware of the garden suite concept prior to being contacted for the survey.

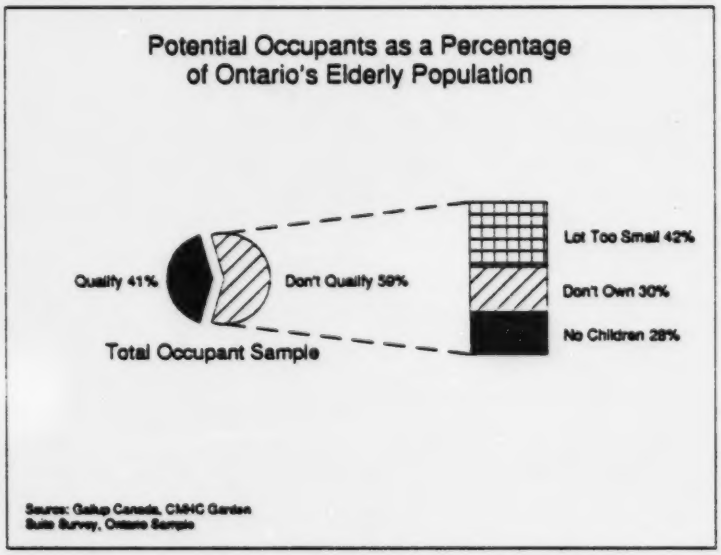
Size of Potential Market

The survey results suggest that for Ontario, approximately 40 per cent of elderly households (aged sixty and above) have one or more children who own their own homes and have properties with the physical potential to accommodate a garden suite. Taking into account sampling error, the total estimated potential occupant market is comprised of 348,529 elderly households (+/- 10,804).

Reasons for those elderly respondents judged ineligible were as follows: no children - 16%; no children who own their own detached or semi detached home - 17%; children's property not large enough - 25%.

Potential hosts, on the other hand, represented 35% of all households surveyed in the 18-60 years of age range - an estimated total of 841,938 (+/- 19,364) households. Reasons host households did not meet screening criteria were as follows: don't own home or home not detached or semi detached - 13%; no parents 60+ - 12%; property not large enough - 15%. About 37% of the potential host market is based in rural or suburban communities with populations of 10.000 or less; 12% in communities of between 10,000 - 100,000 residents; and the remaining 51% in larger metropolitan areas.

It is important to recognize that these figures refer only to the total potential market; they do not take into account the likelihood of use, which is discussed below. It should also be noted that occupant and host households must interact in order for there to be any market at all; the two markets are not additive.

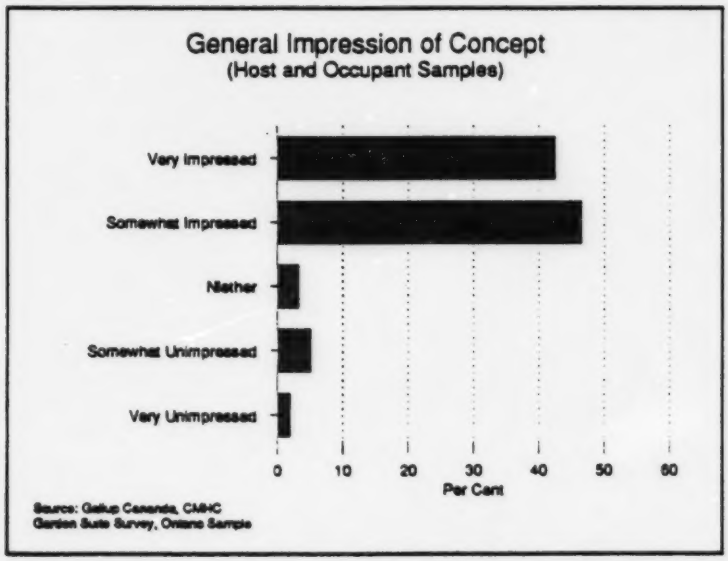

Potential Occupants as a Percentage of Ontario's Elderly Population
Quality 41%
Don't Quality 59%
Total Occupant Sample
Lot Too Small 42%
Don't Own 30%
No Children 28%
Source: Gallup Canada, CMHC Garden Suite Survey, Ontario Sample

General Impression of Concept

The garden suite concept was judged very favourably by the vast majority of respondents - both occupant and host samples. Approximately 89% of those interviewed stated that they were either very impressed (42.5%) or somewhat impressed (46.5%) with the

concept. 76% of potential occupants indicated that they thought they would be comfortable living in a garden suite; 81% of potential host households thought that their parents or their spouse's parents would be comfortable in this living arrangement.

Similarly, when potential host households were asked if they thought their parents would want to live in a garden suite (i.e., if the situation arose), 50% indicated that it was either very (21%) or somewhat likely (29%) that they would want to do so; 43% felt that it was unlikely that their parents would want to make use of this living arrangement. In comparison, 46% of potential occupant households felt that it was either very (23%) or somewhat (23%) likely that their children would want to install a unit, vs. 38% who felt that their children would be unlikely to install a unit. The most frequent reasons voiced by potential occupants and hosts who felt it was unlikely that they or their parents would want to use this type of housing was the perceived level of potential occupants' satisfaction with their current housing arrangements; loss of privacy; and small lot sizes.



Perceived Level of Neighbourhood Acceptance

Approximately 48% of potential hosts indicated that they thought it was either very likely (27%) or somewhat likely (21%) that their neighbours would accept a garden suite if they were to install a unit on their property. By contrast, approximately 33% of host households reported that it was either somewhat (12%) or very unlikely (21%) that neighbours would accept a garden suite.

The most common reason suggested by those who felt that it was unlikely that neighbours would accept a garden suite is concern with the adequacy of lot size (23%). Other concerns expressed in this regard were that the unit would block neighbours' views (11%); negative effect on property values (11%); and potential legal problems (7%).

Affordability

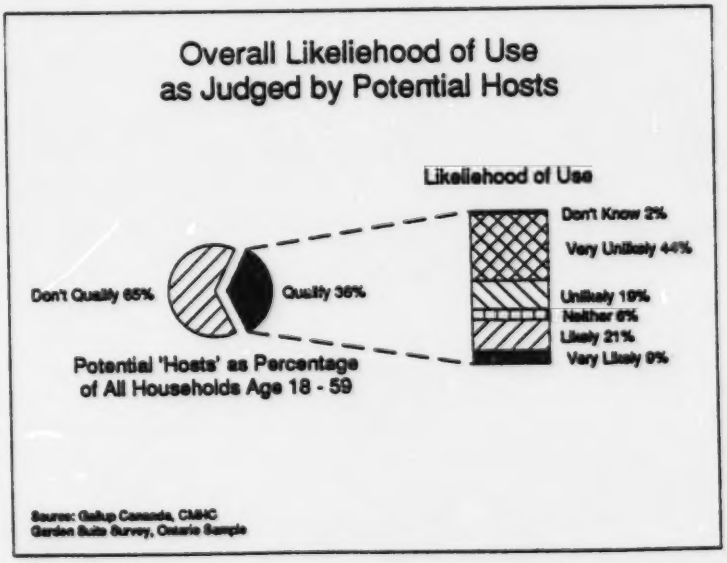
Respondents were asked a number of questions regarding the potential cost of units provided on a rental or purchase basis. For Ontario, the cost of purchasing a garden suite was given as $37,000 (installed); rents were described as in the $450 - $550 range.

At these levels, 75% of those interviewed (both host and occupant samples) indicated that they could afford to purchase a unit, and 69% that they could afford to rent a unit. Affordability did not vary significantly between host and occupant respondents.

36% of respondents expressed a preference for the rental option, and 49% for the purchase option.

Likelihood of Use

Based on their family situation and the information which they had been provided with about the garden suite option, potential host households were asked to respond to how likely they would be to actually have a garden suite installed on their property. The majority of hosts - 63% - indicated that they were either very unlikely (44%), or somewhat unlikely (19%) to install a unit. Only 9% stated that they would be very likely to install a unit, and 21% that they were somewhat likely to do so.



Discussion

The results of the market survey point to a definite potential market for the garden suite option, although the likely level of demand represents only a small part of the total potential market. Moreover, given the changing age structure of our population, this market can be expected to increase significantly over the next forty years in absolute numbers.

Some caution should be exercised in interpreting the results of the market survey. Responses are based on a hypothetical situation as opposed to a real life decision, and it is possible that even the "very likely" market described above may greatly overestimate the potential demand for this option. The consultant's discussion stresses that a number of elements would have to present in order for the garden suites market to develop to its full potential: the availability of units on both a purchase and rental basis; a range of financing alternatives; and easy access for consumers to view a display unit.

A further difficulty in interpreting survey results concerns the unit price and rent levels provided to respondents (a purchase price of $37,000/unit installed, or $450-$550/month on a rental basis). While the cost analysis undertaken as part of the Technological Research and Assessment component of the PLUS evaluation suggests that on a large scale, multiple unit basis a purchase price at this level may be attainable, current costs for individual consumers are likely to be higher. Delivery on any rental or leasehold basis by the private sector would almost certainly involve costs significantly higher that the amount quoted in the survey. Rent levels could be as much as double those used in the survey, particularly during the first years of operation, while the frequency of unit relocation remains an unknown, and promotion and advertising costs are highest.

These considerations notwithstanding, the survey does provide strong evidence that many elderly households and their families would like to see garden suites as an <u>available</u> option for themselves or their parents. Moreover, it would appear that even if the survey does overestimate considerably the size of the likely market, it would still have a very significant impact on the factory built housing industry in Ontario. For example, if the actual market for units were to represent only 2% of the potential occupant market (estimated at 348,529 households), this would still represent almost 7,000 units - worth approximately $210 million (at $30,000/unit, exclusive of installation costs) -to an industry which is currently averaging only about 1,650 units annually in sales of factory built housing units (i.e. mobile and modular) in Ontario.

FINANCIAL ASSESSMENT

Following the approach developed by Reiger and Engel in Granny Flats: An Assessment of Economic and Land Use Issues, (1983), the pro forma analysis undertaken by the Ministry of Housing focused on two basic delivery models: 1) private purchase and subsequent resale of units by individual families from a private sector supplier; and, 2) rental or lease of units from either a non-profit housing corporation or private sector firm. (Please refer to Appendix I for complete pro forma analysis)

Component costs used in the analysis were based on the cost analysis undertaken as part of the Technological Research and Assessment component of the PLUS evaluation. Table 1 sets out the range of projected costs for construction, installation and total installed costs for several unit types.

TABLE 1

Typical Construction, Installation and Total Installed Unit Costs *

Unit Type	Construction	Installation	Total
	(all costs per square foot)		
PLUS Demonstration	$59-$66	$23-$29	$82-$95
Modular Homes (1200-2400 sq.ft.)	$43-$54	$9-$13	$56-$63
Mobile Home (< 1000 sq. ft.)	$40-$50	$10-$12	$50-$57
"2nd Generation" PLUS Unit **			
(single unit basis)	$52-$57	$19-$24	$71-$81
(multiple unit basis)	$47-$51	$17-$22	$64-$73
Enhanced Mobile Home	$50	$11	$62

* Note: estimates based on 1987 costs
** Based on modified design, use of alternative materials used and installation procedures

It is clear from Table 1 that while costs for the PLUS demonstration units were high relative to standard modular or mobile home unit costs, modifications to the PLUS unit design and potential economies of scale could reduce these costs considerably. In addition, the PLUS demonstration sought out a range of site conditions, including a number of relatively difficult sites, which is reflected in the high average cost of installation.

Since rate of development of the garden suite market, and hence the rate of product development and the applicability of economies of scale, are contingent upon the many factors discussed throughout this report, the pro forma analyses employed low, medium and high cost scenarios for construction and installation costs.

Ownership Case

Exhibits 1 - 9 in Appendix I, identify detailed component costs, cash flows and final costs over ownership periods of 3, 5, 7 and 10 years under low, medium and high cost scenarios. The results of these analyses on the final average monthly cost of occupancy are summarized in Table 2.

TABLE 2

Average Monthly Cost For Selected Periods of Occupancy *

(based on zero downpayment; 12% interest amortized over 25 years)

Estimated Installed Cost of 600 sq. ft. Unit	Low	Med.	High
	$40,800	$47,040	$56,424
Years Occupied			
3	$1,123	$1,330	$1,632
5	$ 938	$1,093	$1,321
7	$ 857	$ 989	$1,185
10	$ 793	$ 906	$1,057

* Note: Refer to Appendix I for detailed description of assumptions. Average monthly costs represent total costs incurred over the occupancy period divided by the number of months a unit is occupied. The low cost figure was based on lower range estimates for typical mobile home or modular construction; the medium and high cost figures were based on estimates for "2nd generation" PLUS units produced on a single or multiple unit basis respectively. These estimates have been adjusted by a factor of 10% to reflect increases in construction and labour costs since research for the technical report was completed.

The average monthly costs listed in Table 2 are simply a product of total costs incurred over the occupancy period divided by the number of months a unit is occupied. Monthly cash flows will vary depending on the amount of downpayment and length of amortization period. Lower costs associated with longer periods of occupancy are due primarily to the fact that installation costs, which are non-recoverable, are spread out over a longer period.

Many senior households may well be able to afford the full amount of construction and installation costs, without recourse to any loan or mortgage if they have recently sold a single family home to move to the garden suite. This would mean very low cash flows - enough to cover maintenance, taxes, insurance and utilities - over the occupancy period. However, if the interest benefits on the initial capital outlay are considered, final average costs would not be very different from those presented in Table 2.

At this time, the availability and terms of financing for garden suites remain somewhat of an unknown. CMHC is currently operating an experimental Chattel Loan Insurance program for mobile homes which provides for up to 90% financing of unit capital and installation costs. However, the program is not currently structured to accommodate garden suites. On their own, major lending institutions are not likely to offer financing for full capital and installation costs unless some other form of collateral, such as second mortgage on the principle residence, is available to secure the loan.

Another factor which can be expected to play a major part in consumer decisions, and thus the potential for growth of the garden suite market on an ownership basis, is the uncertain nature of the resale market for the units. Patrick Hare (1988) has cited this as one of the main problems encountered by those in the U.S. trying to develop garden suites as a viable alternative on an ownership basis. The preference of municipalities for third party ownership of units is an additional consideration which may limit the potential of an ownership model.

These factors may also prove to be problematic for the market in Ontario, even though many respondents in the CMHC market study expressed a preference for owning units rather than renting. The viability of the resale market, if it is a problem, is likely to be most difficult during the initial period of market growth. On the other hand, if a viable resale market does develop, the availability of resale units will have a positive effect on affordability and thus tend to increase the overall size of the garden suite market in the long term.

Rental/Leasehold Case

The basic cost components for the analysis of the rental/leasehold case are the same as those employed in the ownership model. Again, low, medium and high cost scenarios were used in estimating basic construction and installation costs.

The most important differences between the ownership and rental/leasehold models are that the rental model must make allowances for what could be fairly high management costs associated with scattered housing projects, and somehow anticipate the cost and frequency of future relocations in calculating economic rents for the units. However, most of the transfer costs associated with the ownership model will not be incurred in a rental/leasehold model.

In this analysis, the estimated cost of relocation is taken to be 130% of the initial installation cost, (based on the limited experience to date with four relocations of units in the PLUS demonstration). Three scenarios with respect to the assumed turnover rate have been examined: annual turnover rates of 16.6%, 20% and 25%. These rates are based on assumed average lengths of occupancy of six, five and four years respectively. As with the ownership case, we have chosen to focus on fairly low average length of occupancy assumptions in order to draw attention to the higher costs which can result. Unfortunately, because of the small number of units (12) and relatively short period of time (4 years) involved in the PLUS demonstration it can provide little guidance regarding average length of occupancy. In the Moveable Units Program in Victoria, Australia, average length of occupancy has been reported as 6 - 7 years.

TABLE 3

Cost Recovery Rent at Selected Turnover Rates *

Estimated Installed Cost of 600 sq. ft. Unit	Low	Med.	High
	$40,800	$47,040	$56,424
Turnover Rate			
.166	$ 709	$ 812	$ 962
.20	$ 748	$ 864	$1,031
.25	$ 806	$ 941	$1,135

* Refer to Appendix I for detailed description of assumptions; cost estimates are same as those used in Table 2.

Table 3 illustrates the estimated cost recovery rents over an assumed unit life of 30 years, based on varying turnover rates and initial cost assumptions. It should be noted that these rents do not include profit associated with the risks and management of a rental/leasehold program which would be expected by a private sector delivery firm.

Reiger and Engel (1983) have suggested that as an alternative to factoring in what are basically unknown relocation costs in estimating economic rents, installation and site restoration costs could be charged directly to tenants/lessees, with rents based only on unit capital costs and normal operating expenses. A further alternative would be to essentially share the risk between the delivery agent and the consumer, with a fixed sum to be paid at the outset in order to help offset the costs and risks associated with an undetermined length of occupancy. This type of approach is currently being taken by a private modular housing dealer which has begun to serve the garden suite market in Southern Ontario. This firm is offering a 700 square foot unit on a leasehold basis for $860 /month and an initial one-time payment of $5,000.

At least at the outset, it is likely that the delivery of garden suites by the private sector would proceed on a leasehold rather than a comprehensive rental basis with some or all of the installation and relocation costs being born by the consumer. The attractiveness to consumers of such an approach will depend greatly on the specific terms involved. Since the status of garden suites vis a vis current landlord and tenant legislation is currently unclear, a key issue for consumers will be what kind of assurances are offered regarding long term costs (i.e. beyond the initial term of the lease).

Assuming that such assurances are available, it would appear that from a consumer acceptance standpoint there is considerable potential for further development of the garden suite market on a private, leasehold basis. Third party ownership of garden suites may also be seen as preferable by municipalities if it involves some guarantee that the leasing company is responsible for the eventual removal and relocation of the units. At the same time, unless third party ownership becomes a requirement for regulatory approval, there does not appear to be any reason why a leasehold model could not proceed in conjunction with an ownership model.

The other major aspect with respect to the rental/leasehold model is to what extent it would be feasible for a non-profit organization to deliver garden suites on this basis. In most respects, the risks and component costs that would be faced by non-profit organization are generally the same as those facing a

private sector firm. The small scale of some projects which might be undertaken by non-profits, however, could result in higher per unit acquisition and management costs. In addition, while most private sector firms entering this market will already have experience and expertise in the field of portable housing, this is unlikely to be the case for the majority of non-profit organizations. These services would therefore have to be purchased from the private sector, and costs may be high over the initial learning period, as was the case in the PLUS demonstration.

On the other hand, municipal acceptance of a government sponsored garden suites program is likely to be much higher than for a private sector leasehold or ownership program. Further, to the extent that units would also be made available on a rent-geared-income basis, the absolute size of the potential market is larger. Taken together, these factors could result in a non-profit market large enough to benefit from economies of scale and competitive pricing by firms competing for this market.

Cost Comparisons

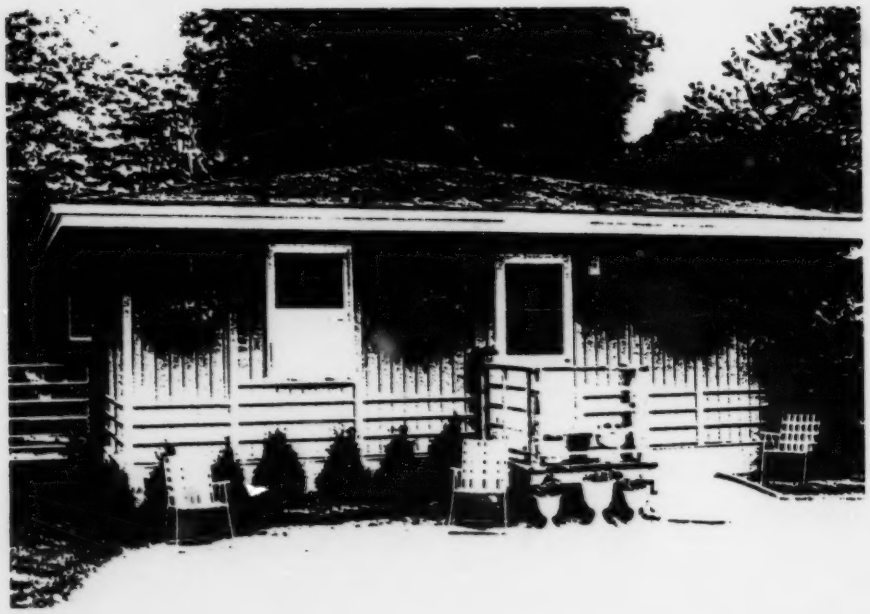
The central problem in drawing cost comparisons between the garden suite and other housing alternatives is that it is not always clear what an appropriate comparison would be. Many potential occupants may be fully independent at the time they move into a garden suite, but move into the semi-independent category over the course of their occupancy.

From a government spending perspective, there is a potential for significant cost savings under both ownership and private sector rental/leasehold models to the extent that this living arrangement reduces demands on community services (e.g. home care) and/or prevents or forestalls the need for institutional care. The other major issue in this context is viability of a rental program under the terms of current government assisted non-profit housing programs and/or rent supplement program. Resolution of this question will depend upon two main factors: 1) the actual costs at which units can be acquired, installed and relocated by a non-profit housing agency, or in the case of the rent supplement program, the cost at which units can be leased from a private sector delivery agent; and, 2) the value, if any, which is ascribed to the informal support provided by families and the greater potential for occupants to age in place which the garden suite may provide relative to other housing alternatives.

From a consumer's point of view, costs for garden suites under ownership and private sector rental/leasehold delivery models relative to other forms of housing (e.g. creating an accessory

apartment within the host family's residence, seniors apartments or condominiums, rest/retirement homes) will depend greatly on local market conditions. The availability of other alternatives may also be an important consideration. In addition, CMHC's market survey suggests that financial considerations may not be the most important factor in the decision to choose this type of living arrangement.

A garden suite offers little in the way of investment potential since the unit itself is unlikely to appreciate in value and the installation costs are generally non-recoverable. An accessory apartment created within the home would generally represent a better investment if there is potential use for the unit over the longer term. Zoning approval for accessory apartments has often been difficult to obtain in many residential and rural areas. However, the Land Use Planning for Housing Policy Statement, issued by the government in 1989, encourages municipalities to provide for accessory apartments as-of-right where there is the capacity to support additional households. Other alternatives, such as the purchase of a seniors condominium or unit in a retirement community may also represent a better investment in monetary terms, but may not provide the same quality of social supports as proximity to the host family would entail.



Kitchen – dining area, two-person unit

Bedroom one-person unit.

POLICY ENVIRONMENT

In determining the most appropriate role for the Province in the further development of the garden suite concept a number of issues have been considered.

Intensification

- As a form of residential intensification - i.e. temporary backyard infill - the garden suite concept is consistent with land use principles set out in the Land Use Planning for Housing Policy Statement. In particular, the concept that land use practices should serve the housing needs of the broader community supports a land use such as the garden suite.

- In a sense, however, adoption of a policy which acknowledges the preservation of the single family character of neighbourhoods as a legitimate concern may be seen to conflict with the Policy Statement's requirement that accessory apartments be permitted as-of-right where feasible.

Housing for the Elderly

- The changing age structure of Ontario's population, with an increasing number of elderly persons, and in particular an increasing number of frail elderly will place considerable stress on our health and social services.

- As a housing option which facilitates aging in place, the garden suite concept is consistent with a general policy direction which seeks to promote the use and development of non-institutional alternatives for the elderly and other groups, such as the disabled.

- There is considerable evidence which points to the importance of social supports in fostering a healthy aging environment. The findings of the social assessment component of the evaluation of the PLUS demonstration clearly indicate this living arrangement had a positive impact for the elderly unit occupants and their families.

Access

- Access to garden suites is not universal - i.e. it is contingent upon the elderly household having a willing host household with the physical potential to accommodate the unit.

- It should be recognized that arguments in favour of the garden suite concept are essentially a subset of a larger argument in support of a general, non-occupancy tied second unit policy (i.e. accessory apartments and garden suites).

- There are a number of other groups which could potentially benefit from access to this form of housing e.g. the disabled, and single parents. The PLUS demonstration did not consider the issue of whether other groups could benefit from equal entitlement.

Affordability

- Construction, installation and relocation costs in the PLUS demonstration have been high. While projected costs provided by the consultants undertaking the technological research and assessment component (and those assumed by CMHC in its evaluation) are considerably lower, (taking into account other designs, types of construction and the development of economies of scale), these remain to some extent theoretical. Actual costs for this type of housing will clearly be a key issue in establishing future growth and, especially, in determining the feasibility of garden suites in assisted housing programs.

- Privately owned or leased garden suites are unlikely to provide the most affordable form of seniors housing per se. However, when compared to other forms of housing combined with a care component e.g. rest/retirement or nursing homes the garden suite may well prove to be an attractive alternative.

Federal Policy Direction

- CMHC has completed a review of the garden suite concept (based in large part on the evaluation of the PLUS demonstration) and more recently has proposed a demonstration project to examine the feasibility of including garden suites in federal-provincial programs (non-profit and rent supplement).

Private Sector Initiatives

- The manufactured housing industry in its various forms continues to show strong interest in supplying garden suites. The CMHC/CMHI display units were built mainly by 'mobile home' manufacturers while Ontario's demonstration units were built by an established 'modular homes' manufacturer.

- An interesting panelized system which is designed to provide the maximum degree of unit mobility and site accessibility is presently in the research and development stage in Ontario. Another company has designed and displayed a new modular unit and is currently advertising units for lease.

Municipal Government Initiatives

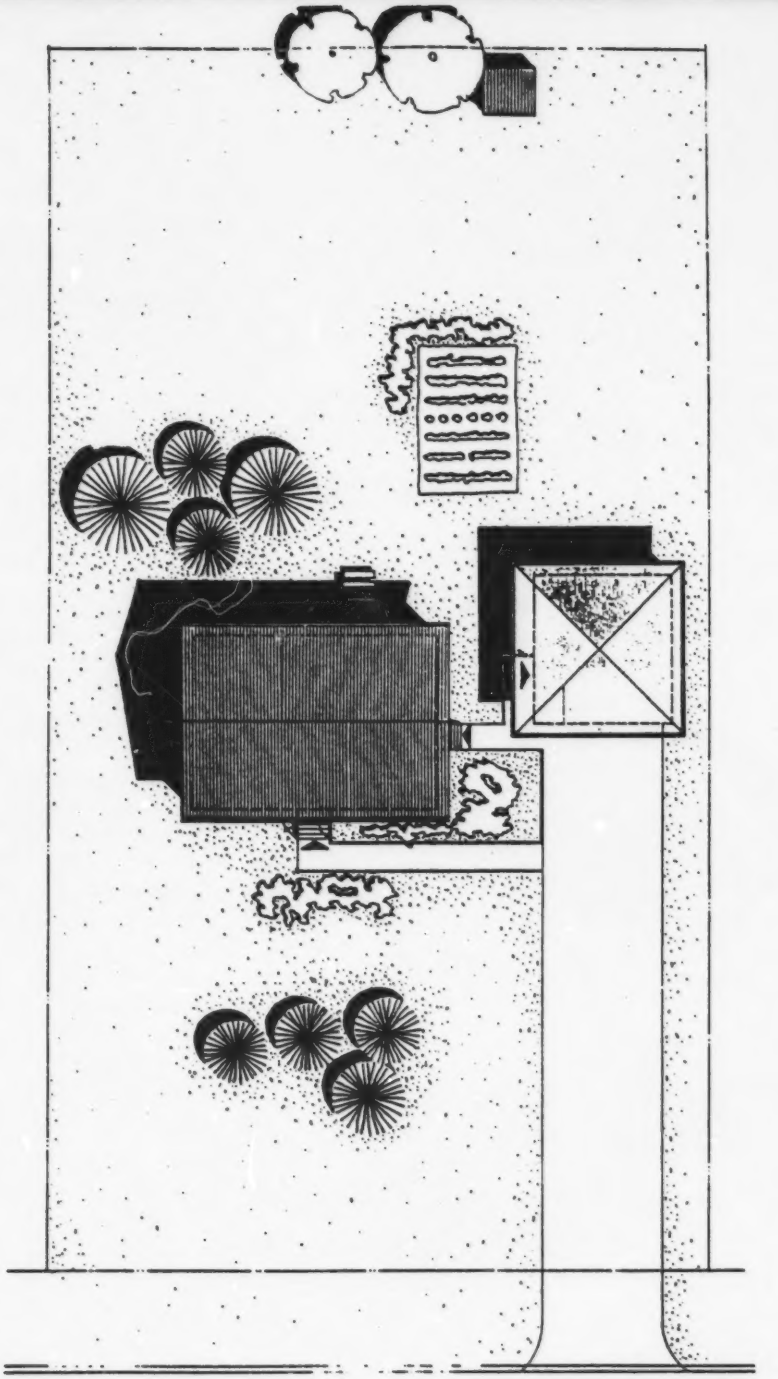
- The number of 'private' garden suites (either privately owned or leased) so far permitted by Ontario municipalities has been very small and has tended to be based on restrictive criteria rather than broad based policies. For instance, some installations have been permitted on individual, apparently compassionate, grounds while other municipalities will permit garden suites only in specific very low density zones such as hamlets or agricultural areas.

- However, there are also some encouraging signs of acceptance of the concept as a valid form of seniors housing which should be more readily available. For instance, the Regional Municipality of Ottawa-Carleton (one of the PLUS demonstration areas) recently adopted a planning staff report on the concept which included the recommendations that:

  - "Regional staff prepare an amendment to the Regional Official Plan to specifically identify granny flats as an acceptable housing option and develop the appropriate policies to encourage and guide their location," and;

  - "The proposed amendment to the Regional Official Plan for granny flats require local municipalities to review their Official Plans, Zoning By-laws and Site Plan Control By-laws to identify any provisions which might act as barriers to the establishment of granny flats. Further, these documents should be amended accordingly to encourage and control this alternative form of seniors housing, to include criteria on siting, road access, designations where permitted, and servicing".

- Other recommendations included a request that the Province enact enabling legislation to permit municipalities to regulate garden suites.



Site plan for the first demonstration unit – a very straightforward, village site. This unit was subsequently relocated to another site 85 kms. away.

CONCLUSIONS

The P.L.U.S. demonstration project has demonstrated convincingly the feasibility in social and technical terms of the garden suite concept in Ontario. A very high level of satisfaction was expressed by the occupants and their host families, by municipal officials and a large majority of neighbours. Moreover, despite a deliberately low-key approach, interest in the concept has remained high throughout the demonstration resulting in approximately 3,000 enquiries to the Ministry, national television coverage and innumerable newspaper and magazine articles.

Several other Provinces have requested details of the Ontario demonstration and officials from a number of Provinces and other jurisdictions have visited the demonstration units. Subsequently a number of Provinces have begun pilot projects of their own.

The Federal Government, through CMHC, has carried out jointly with the Canadian Manufactured Housing Institute a demonstration/display of model 'garden suites' across Canada which drew about 500,000 visitors. A subsequent national market survey confirmed a widespread acceptance of the concept and a readiness to rent or purchase garden suites should they become available. More recently, a demonstration project to examine the feasibility of including garden suites in federal-provincial housing programs (non-profit and rent supplement) has been proposed by C.M.H.C.

The manufactured housing industry has the capability and the capacity to build suitable garden suite units in a variety of forms. However, without some assurance of a reasonably receptive climate at the municipal level most companies will be unlikely to take the risks involved in marketing such a new product.

The most significant impediment to the more widespread use of garden suites remains effective regulation. Presently, there are few options by which municipalities can permit garden suite installations while retaining adequate controls.

In the basically positive but somewhat tentative climate described above the most appropriate role for the province is that of facilitator. The province is, therefore, to amend pertinent legislation (i.e. The Planning Act and/or the Municipal Act) to provide additional appropriate means to regulate the garden suite form of housing.

Furthermore, the Ministry of Housing will, based on the experience gained with the PLUS demonstration project and monitoring the initiatives of other agencies, provide information and advice on the implementation of the garden suite concept to interested individuals, municipalities, and industry.

An evaluation will be made, initially by the Ontario Buildings Branch, of the need for standards to ensure the relocatability of garden suites for repeated moves and to cover emerging technologies such as 'closed panel' construction methods which may be developed for garden suites.

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APPENDIX I

PRO FORMA ANALYSIS

SUMMARY OF COST ITEMS AND ESTIMATES USED IN PRO FORMA ANALYSES

Ownership Case

Construction and Installation Costs

Construction and installation costs are based on estimates provided in the Technological Research and Assessment component of the PLUS evaluation. Low, medium and high cost scenarios were used in order to reflect the range of possible costs which will vary as a function of such factors as: type of unit construction, architectural quality, and scale of production. In addition to these components, ease of access to the particular site, location of existing services, distance to transport the unit, etc., can all be expected to affect the final installed unit cost. The low cost figure was based on lower range estimates for typical mobile home or modular construction; the medium and high cost figures were based on estimates for "2nd generation" PLUS units produced on a single or multiple unit basis respectively. These estimates have been adjusted by a factor of 10% to reflect increases in construction and labour costs since research for the technical report was completed.1

Sales tax at 8% is based on current tax levels for the Province of Ontario.

For the purposes of the analysis, it was assumed that the garden suite was fully financed at a interest rate of 12%. While it is somewhat doubtful at this point whether full financing would be available for garden suites, a zero downpayment was assumed since it was considered that lost interest benefits on any downpayment would offset the higher carrying costs associated with a zero-downpayment.

Operating Costs

Property taxes are assumed to be levied on an annual basis of 1.% of the new unit construction cost. Actual rates will vary by municipality and the age of the unit as this will affect its appraised value. Some families may be eligible for tax exemptions under the Ministry of Revenue's Seniors and the Disabled in the Community Program.

Insurance costs are based on current costs for units involved in the PLUS demonstration - $120 per year appears to be an average figure. Here again, actual costs will vary with the specific unit and location.

Maintenance is estimated at $600 per year. Actual maintenance costs to date on the PLUS units have been much lower than this, probably because most units have been installed for relatively short period of time (three to four years), and units which have been relocated during this period have been refurbished at that time.

Estimated costs associated with utilities are again based on typical costs experienced over the PLUS demonstration, and can be expected to vary with the size of unit, type of heating system, use of air conditioning, etc..

Operating costs are assumed to increase at the rate of inflation, estimated at 5.1%.

Transfer Costs

The resale market for garden suites remains somewhat of an unknown at this point. For the purpose of this analysis, a standard formula for depreciation was applied against the estimated purchase price, based on the length of time the unit was used by the initial owners and an assumed total unit life of 30 years. A broker's commission on the sale of the unit was assumed based on 6% of the resale price. In addition, allowance was made for an additional three month period in which the unit is vacant and during which time payments would continue to be made against the mortgage.

The cost of dismantling the unit, disconnecting the services, and restoring the site were all assumed to be the responsibility of the owner of the garden suite. This may or may not prove to be the case if a resale market does develop. The cost of these services were based on 30% of the initial installation cost, increased by the assumed inflation rate over the length of time prior to the sale of the unit.

The loan balance was simply taken as the remaining principal portion of the loan at the time of sale.

Final Costs

The final average cost of use per month was based on the total amount of all transfer costs, total operating costs over the time the unit was used, and total amount of the monthly payments which went to interest charges over the loan period, divided by the number of months the unit was occupied. No allowance was made for any further financing of transfer costs after the sale of the unit.

Rental Case

Construction and Installation Costs

These costs are the same as described under the ownership model.

Operating Costs

The basic component costs for insurance, property taxes, utilities and maintenance are assumed to be the same under the rental case as those described under the ownership model. No allowance was made for lower initial unit costs which may be associated with purchase of a large number of units, since a range of initial unit costs was already included in the analysis.

While maintenance costs are generally higher in a rental housing project, these are expected to be offset by the fact that basic unit refurbishment will be undertaken each time the unit is relocated - e.g., likely ever five or six years.

All units were assumed to be 100% financed at an interest rate of 12%, amortized over a 30 year period.

Management and administrative costs were assumed to be $100 per month, based on the assumption that one full-time staff person (at an annual salary of $30,000) would be required to run a project of 25 units.

Additional costs in the rental model provided for replacement reserves, based on a annual rate .6% of total construction costs, an a vacancy allowance based on an average vacancy period of 3 months each time the unit is relocated. The value of the latter therefore is related to the assumed turnover rate.

Relocation Costs

The key difference between the rental model and the ownership model is that while there are no transfer costs associated with the sale of units under a rental model, some estimate of the costs of future relocation of the unit needs to be made. In a multi-unit project, the average frequency of relocation is most easily represented as the proportion of units which can be expected to turn over in any given year. Three different scenarios have been employed in this analysis with respect to assumed turnover rates of .166%, .20%, and .25%, based on average lengths of occupancy of 6, 5 a 4 years respectively.

The actual cost of relocation was assumed to be 130% of the initial installation costs, adjusted for inflation.

Cost Recovery Rents

Cost recovery rents were defined as an initial average rent level which would result in rental cashflows over a unit life of 30 years with a net present value of approximately zero dollars.

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$64		
Years Occupied =	3		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$50	/sq. ft.	$30,000
Sales Tax on Unit (8%)	$2,400		$32,400
Installation Cost	$14	/sq.ft.	$8,400
Total Installed Cost	$40,800		
Downpayment	$0		
Principal	$40,800		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$421.02		
Annual payment	$5,052.18		
Inflation	0.051		
Operating Costs	$154		
Total Monthly Carrying Costs	$575		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$34
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$154

TRANSFER COSTS

Years Occupied	3	36 /months
Resale Price	$25,323	
- LESS -		
Broker's Commission	$1,519	
Carrying Costs over	$1,263	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$3,090	
Loan Balance	$39,722	
Total Transfer Costs	$20,271	$563 /month

FINAL COSTS

Total Transfer Costs	$20,271	$563 /month
Total Op Costs	$5,977	$166 /month
Interest Costs	$14,176	$394 /month
Downpayment	$0	
Total Unit Costs	$40,424	
Avg. Cost of Use /month	$1,123	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$64		
Years Occupied =	5		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$50	/sq. ft.	$30,000
Sales Tax on Unit (8%)	$2,400		$32,400
Installation Cost	$14	/sq.ft.	$8,400
Total Installed Cost	$40,800		
Downpayment	$0		
Principal	$40,800		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$421.02		
Annual payment	$5,052.18		
Inflation	0.051		
Operating Costs	$154		
Total Monthly Carrying Costs	$575		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$34
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$154

TRANSFER COSTS

Years Occupied	.5	60 /months
Resale Price	$22,473	
- LESS -		
Broker's Commission	$1,348	
Carrying Costs over Sales Period (months)	$1,263	3
Dismantle, Disconnect Services and Site Restoration	$3,413	
Loan Balance	$38,824	
Total Transfer Costs	$22,375	$373 /month

FINAL COSTS

Total Transfer Costs	$22,375	$373 /month
Total Op Costs	$10,500	$175 /month
Interest Costs	$23,409	$390 /month
Downpayment	$0	
Total Unit Costs	$56,283	
Avg. Cost of Use /month	$938	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$64		
Years Occupied =	7		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$50	/sq. ft.	$30,000
Sales Tax on Unit (8%)	$2,400		$32,400
Installation Cost	$14	/sq.ft.	$8,400
Total Installed Cost	$40,800		
Downpayment	$0		
Principal	$40,800		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$421.02		
Annual payment	$5,052.18		
Inflation	0.051		
Operating Costs	$154		
Total Monthly Carrying Costs	$575		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$34
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$154

TRANSFER COSTS

Years Occupied	7	84 /months
Resale Price	$19,839	
- LESS -		
Broker's Commission	$1,190	
Carrying Costs over	$1,263	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$3,770	
Loan Balance	$37,690	
Total Transfer Costs	$24,075	$287 /month

FINAL COSTS

Total Transfer Costs	$24,075	$287 /month
Total Op Costs	$15,507	$185 /month
Interest Costs	$32,412	$386 /month
Downpayment	$0	
Total Unit Costs	$71,994	
Avg. Cost of Use /month	$857	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$64		
Years Occupied =	10		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$50	/sq. ft.	$30,000
Sales Tax on Unit (8%)	$2,400		$32,400
Installation Cost	$14	/sq.ft.	$8,400
Total Installed Cost	$40,800		
Downpayment	$0		
Principal	$40,800		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$421.02		
Annual payment	$5,052.18		
Inflation	0.051		
Operating Costs	$154		
Total Monthly Carrying Costs	$575		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$34
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$154

TRANSFER COSTS

Years Occupied	10	120 /months
Resale Price	$16,290	
- LESS -		
Broker's Commission	$977	
Carrying Costs over	$1,263	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$4,377	
Loan Balance	$35,409	
Total Transfer Costs	$25,735	$214 /month

FINAL COSTS

Total Transfer Costs	$25,735	$214 /month
Total Op Costs	$24,042	$200 /month
Interest Costs	$45,352	$378 /month
Downpayment	$0	
Total Unit Costs	$95,130	
Avg. Cost of Use /month	$793	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$74		
Years Occupied =	3		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$55	/sq. ft.	$33,000
Sales Tax on Unit (8%)	$2,640		$35,640
Installation Cost	$19	/sq.ft.	$11,400
Total Installed Cost	$47,040		
Downpayment	$0		
Principal	$47,040		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$485.41		
Annual payment	$5,824.87		
Inflation	0.051		
Operating Costs	$159		
Total Monthly Carrying Costs	$645		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$39
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$159

TRANSFER COSTS

Years Occupied	3	36 /months
Resale Price	$27,761	
- LESS -		
Broker's Commission	$1,666	
Carrying Costs over	$1,456	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$4,193	
Loan Balance	$45,797	
Total Transfer Costs	$25,351	$704 /month

FINAL COSTS

Total Transfer Costs	$25,351	$704 /month
Total Op Costs	$6,179	$172 /month
Interest Costs	$16,344	$454 /month
Downpayment	$0	
Total Unit Costs	$47,874	
Avg. Cost of Use /month	$1,330	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$74		
Years Occupied =	5		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$55	/sq. ft.	$33,000
Sales Tax on Unit (8%)	$2,640		$35,640
Installation Cost	$19	/sq.ft.	$11,400
Total Installed Cost	$47,040		
Downpayment	$0		
Principal	$47,040		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$485.41		
Annual payment	$5,824.87		
Inflation	0.051		
Operating Costs	$159		
Total Monthly Carrying Costs	$645		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$39
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$159

TRANSFER COSTS

Years Occupied	5	60 /months
Resale Price	$24,570	
- LESS -		
Broker's Commission	$1,474	
Carrying Costs over	$1,456	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$4,632	
Loan Balance	$44,761	
Total Transfer Costs	$27,754	$463 /month

FINAL COSTS

Total Transfer Costs	$27,754	$463 /month
Total Op Costs	$10,854	$181 /month
Interest Costs	$26,989	$450 /month
Downpayment	$0	
Total Unit Costs	$65,597	
Avg. Cost of Use /month	$1,093	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$74		
Years Occupied =	7		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$55	/sq. ft.	$33,000
Sales Tax on Unit (8%)	$2,640		$35,640
Installation Cost	$19	/sq.ft.	$11,400
Total Installed Cost	$47,040		
Downpayment	$0		
Principal	$47,040		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$485.41		
Annual payment	$5,824.87		
Inflation	0.051		
Operating Costs	$159		
Total Monthly Carrying Costs	$645		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$39
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$159

TRANSFER COSTS

Years Occupied	7	84 /months
Resale Price	$21,619	
- LESS -		
Broker's Commission	$1,297	
Carrying Costs over	$1,456	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$5,116	
Loan Balance	$43,455	
Total Transfer Costs	$29,705	$354 /month

FINAL COSTS

Total Transfer Costs	$29,705	$354 /month
Total Op Costs	$16,031	$191 /month
Interest Costs	$37,369	$445 /month
Downpayment	$0	
Total Unit Costs	$83,105	
Avg. Cost of Use /month	$989	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$74		
Years Occupied =	10		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$55	/sq. ft.	$33,000
Sales Tax on Unit (8%)	$2,640		$35,640
Installation Cost	$19	/sq.ft.	$11,400
Total Installed Cost	$47,040		
Downpayment	$0		
Principal	$47,040		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$485.41		
Annual payment	$5,824.87		
Inflation	0.051		
Operating Costs	$159		
Total Monthly Carrying Costs	$645		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$39
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$159

TRANSFER COSTS

Years Occupied	10	120 /months
Resale Price	$17,645	
- LESS -		
Broker's Commission	$1,059	
Carrying Costs over	$1,456	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$5,940	
Loan Balance	$40,824	
Total Transfer Costs	$31,634	$264 /month

FINAL COSTS

Total Transfer Costs	$31,634	$264 /month
Total Op Costs	$24,854	$207 /month
Interest Costs	$52,289	$436 /month
Downpayment	$0	
Total Unit Costs	$108,776	
Avg. Cost of Use /month	$906	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$89		
Years Occupied =	3		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$63	/sq. ft.	$37,800
Sales Tax on Unit (8%)	$3,024		$40,824
Installation Cost	$26	/sq.ft.	$15,600
Total Installed Cost	$56,424		
Downpayment	$0		
Principal	$56,424		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$582.24		
Annual payment	$6,986.87		
Inflation	0.051		
Operating Costs	$167		
Total Monthly Carrying Costs	$749		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$47
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$167

TRANSFER COSTS

Years Occupied	3	36 /months
Resale Price	$31,663	
- LESS -		
Broker's Commission	$1,900	
Carrying Costs over Sales Period (months)	$1,747 3	
Dismantle, Disconnect Services and Site Restoration	$5,738	
Loan Balance	$54,933	
Total Transfer Costs	$32,654	$907 /month

FINAL COSTS

Total Transfer Costs	$32,654	$907 /month
Total Op Costs	$6,482	$180 /month
Interest Costs	$19,605	$545 /month
Downpayment	$0	
Total Unit Costs	$58,741	
Avg. Cost of Use /month	$1,632	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-99

Total Installed Cost/sq.ft =	$89		
Years Occupied =	5		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$63	/sq. ft.	$37,800
Sales Tax on Unit (8%)	$3,024		$40,824
Installation Cost	$26	/sq.ft.	$15,600
Total Installed Cost	$56,424		
Downpayment	$0		
Principal	$56,424		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$582.24		
Annual payment	$6,986.87		
Inflation	0.051		
Operating Costs	$167		
Total Monthly Carrying Costs	$749		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$47
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$167

TRANSFER COSTS

Years Occupied	5	60 /months
Resale Price	$27,925	
- LESS -		
Broker's Commission	$1,675	
Carrying Costs over	$1,747	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$6,338	
Loan Balance	$53,691	
Total Transfer Costs	$35,527	$592 /month

FINAL COSTS

Total Transfer Costs	$35,527	$592 /month
Total Op Costs	$11,387	$190 /month
Interest Costs	$32,373	$540 /month
Downpayment	$0	
Total Unit Costs	$79,287	
Avg. Cost of Use /month	$1,321	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$89		
Years Occupied =	7		
			Total
Unit Size	600	sq. ft.	
Construction Cost	$63	/sq. ft.	$37,800
Sales Tax on Unit (8%)	$3,024		$40,824
Installation Cost	$26	/sq.ft.	$15,600
Total Installed Cost	$56,424		
Downpayment	$0		
Principal	$56,424		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$582.24		
Annual payment	$6,986.87		
Inflation	0.051		
Operating Costs	$167		
Total Monthly Carrying Costs	$749		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$47
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$167

TRANSFER COSTS

Years Occupied	7	84 /months
Resale Price	$24,468	
- LESS -		
Broker's Commission	$1,468	
Carrying Costs over	$1,747	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$7,001	
Loan Balance	$52,123	
Total Transfer Costs	$37,871	$451 /month

FINAL COSTS

Total Transfer Costs	$37,871	$451 /month
Total Op Costs	$16,818	$200 /month
Interest Costs	$44,824	$534 /month
Downpayment	$0	
Total Unit Costs	$99,513	
Avg. Cost of Use /month	$1,185	

GARDEN SUITE PRO-FORMA
OWNERSHIP CASE

08-Dec-89

Total Installed Cost/sq.ft =	$89		
Years Occupied =	10		
			Total
Unit Size	500	sq. ft.	
Construction Cost	$63	/sq. ft.	$37,800
Sales Tax on Unit (8%)	$3,024		$40,824
Installation Cost	$26	/sq.ft.	$15,600
Total Installed Cost	$56,424		
Downpayment	$0		
Principal	$56,424		
Amortization period	25		
Payments/year	12	(monthly)	
Compounding periods/year	2		
Payments	300		
Interest rate	12.00%		
Interest factor	0.009758794		
Monthly payment	$582.24		
Annual payment	$6,986.87		
Inflation	0.051		
Operating Costs	$167		
Total Monthly Carrying Costs	$749		

MONTHLY OPERATING BUDGET

Property taxes (@1%)	$47
Property Insurance	$10
Maintenance	$50
Utilities	$60
Total	$167

TRANSFER COSTS

Years Occupied	10	120 /months
Resale Price	$19,813	
- LESS -		
Broker's Commission	$1,189	
Carrying Costs over	$1,747	
Sales Period (months)	3	
Dismantle, Disconnect Services and Site Restoration	$8,128	
Loan Balance	$48,968	
Total Transfer Costs	$40,219	$335 /month

FINAL COSTS

Total Transfer Costs	$40,219	$335 /month
Total Op Costs	$26,074	$217 /month
Interest Costs	$62,720	$523 /month
Downpayment	$0	
Total Unit Costs	$129,013	
Avg. Cost of Use /month	$1,075	

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $64
Turnover Rate = 0.166

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$50	/sq. ft.	$30,000
Sales Tax	$2,400		$32,400
Installation Cost/sq. ft.	$14	/sq. ft.	$8,400
Installed Cost	$40,800		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$411		
Relocation Cost	$10,920	(130% of installation cost)	
Turnover Rate	0.166		
PV of Relocations	$22,372		
Operating Exp	$458		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$60,548		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$25
Insurance	$10
Replacement Reserve	$15
Management	$100
Vac. Allowance	$47
Relocation	$151
Maintenance	$50
Utilities	60
Total	$458

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$4,927	$5,498	$10,425	$13,620	$3,195	$1,813
2	$4,927	$5,778	$10,706	$14,315	$3,609	$1,905
3	$4,927	$6,073	$11,000	$15,045	$4,044	$2,002
4	$4,927	$6,383	$11,310	$15,812	$4,502	$2,104
5	$4,927	$6,708	$11,636	$16,618	$4,983	$2,212
6	$4,927	$7,050	$11,978	$17,466	$5,488	$2,325
7	$4,927	$7,410	$12,337	$18,357	$6,019	$2,443
8	$4,927	$7,788	$12,715	$19,293	$6,578	$2,568
9	$4,927	$8,185	$13,112	$20,277	$7,164	$2,699
10	$4,927	$8,603	$13,530	$21,311	$7,781	$2,836
11	$4,927	$9,041	$13,969	$22,398	$8,429	$2,981
12	$4,927	$9,502	$14,430	$23,540	$9,110	$3,133
13	$4,927	$9,987	$14,914	$24,741	$9,826	$3,293
14	$4,927	$10,496	$15,424	$26,002	$10,579	$3,461
15	$4,927	$11,032	$15,959	$27,328	$11,370	$3,637
16	$4,927	$11,594	$16,521	$28,722	$12,201	$3,823
17	$4,927	$12,186	$17,113	$30,187	$13,074	$4,018
18	$4,927	$12,807	$17,734	$31,727	$13,992	$4,223
19	$4,927	$13,460	$18,387	$33,345	$14,957	$4,438
20	$4,927	$14,147	$19,074	$35,045	$15,971	$4,664
21	$4,927	$14,868	$19,795	$36,833	$17,037	$4,902
22	$4,927	$15,626	$20,554	$38,711	$18,157	$5,152
23	$4,927	$16,423	$21,351	$40,685	$19,335	$5,415
24	$4,927	$17,261	$22,188	$42,760	$20,572	$5,691
25	$4,927	$18,141	$23,068	$44,941	$21,872	$5,981
26	$4,927	$19,066	$23,994	$47,233	$23,239	$6,286
27	$4,927	$20,039	$24,966	$49,642	$24,676	$6,607
28	$4,927	$21,061	$25,988	$52,174	$26,186	$6,944
29	$4,927	$22,135	$27,062	$54,834	$27,772	$7,298
30	$4,927	$23,264	$28,191	$57,631	$29,440	$7,670

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $64
Turnover Rate = 0.200

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$50	/sq. ft.	$30,000
Sales Tax	$2,400		$32,400
Installation Cost/sq. ft.	$14	/sq. ft.	$8,400
Installed Cost	$40,800		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$411		
Relocation Cost	$10,920	(130% of installation cost)	
Turnover Rate	0.200		
PV of Relocations	$26,954		
Operating Exp	$499		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$54,537		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$25
Insurance	$10
Replacement Reserve	$15
Management	$100
Vac. Allowance	$57
Relocation	$182
Maintenance	$50
Utilities	60
Total	$499

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$4,927	$5,985	$10,912	$13,620	$2,708	$2,184
2	$4,927	$6,290	$11,218	$14,315	$3,097	$2,295
3	$4,927	$6,611	$11,538	$15,045	$3,506	$2,412
4	$4,927	$6,948	$11,875	$15,812	$3,936	$2,535
5	$4,927	$7,303	$12,230	$16,618	$4,389	$2,665
6	$4,927	$7,675	$12,602	$17,466	$4,864	$2,801
7	$4,927	$8,066	$12,994	$18,357	$5,363	$2,944
8	$4,927	$8,478	$13,405	$19,293	$5,888	$3,094
9	$4,927	$8,910	$13,837	$20,277	$6,439	$3,251
10	$4,927	$9,365	$14,292	$21,311	$7,019	$3,417
11	$4,927	$9,842	$14,769	$22,398	$7,628	$3,592
12	$4,927	$10,344	$15,271	$23,540	$8,269	$3,775
13	$4,927	$10,872	$15,799	$24,741	$8,942	$3,967
14	$4,927	$11,426	$16,353	$26,002	$9,649	$4,170
15	$4,927	$12,009	$16,936	$27,328	$10,392	$4,382
16	$4,927	$12,621	$17,549	$28,722	$11,174	$4,606
17	$4,927	$13,265	$18,192	$30,187	$11,995	$4,841
18	$4,927	$13,942	$18,869	$31,727	$12,858	$5,087
19	$4,927	$14,653	$19,580	$33,345	$13,765	$5,347
20	$4,927	$15,400	$20,327	$35,045	$14,718	$5,620
21	$4,927	$16,185	$21,112	$36,833	$15,720	$5,906
22	$4,927	$17,011	$21,938	$38,711	$16,773	$6,207
23	$4,927	$17,878	$22,805	$40,685	$17,880	$6,524
24	$4,927	$18,790	$23,717	$42,760	$19,043	$6,857
25	$4,927	$19,748	$24,676	$44,941	$20,265	$7,206
26	$4,927	$20,755	$25,683	$47,233	$21,550	$7,574
27	$4,927	$21,814	$26,741	$49,642	$22,901	$7,960
28	$4,927	$22,926	$27,854	$52,174	$24,320	$8,366
29	$4,927	$24,096	$29,023	$54,834	$25,811	$8,793
30	$4,927	$25,325	$30,252	$57,631	$27,379	$9,241

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $64
Turnover Rate = 0.250

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$50	/sq. ft.	$30,000
Sales Tax	$2,400		$32,400
Installation Cost/sq. ft.	$14	/sq. ft.	$8,400
Installed Cost	$40,800		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$411		
Relocation Cost	$10,920	(130% of installation cost)	
Turnover Rate	0.250		
PV of Relocations	$33,692		
Operating Exp	$558		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$45,698		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$25
Insurance	$10
Replacement Reserve	$15
Management	$100
Vac. Allowance	$71
Relocation	$228
Maintenance	$50
Utilities	60
Total	$558

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$4,927	$6,701	$11,629	$13,620	$1,991	$2,730
2	$4,927	$7,043	$11,970	$14,315	$2,344	$2,869
3	$4,927	$7,402	$12,329	$15,045	$2,715	$3,016
4	$4,927	$7,780	$12,707	$15,812	$3,105	$3,169
5	$4,927	$8,176	$13,104	$16,618	$3,515	$3,331
6	$4,927	$8,593	$13,521	$17,466	$3,945	$3,501
7	$4,927	$9,032	$13,959	$18,357	$4,398	$3,679
8	$4,927	$9,492	$14,420	$19,293	$4,873	$3,867
9	$4,927	$9,976	$14,904	$20,277	$5,373	$4,064
10	$4,927	$10,485	$15,413	$21,311	$5,898	$4,272
11	$4,927	$11,020	$15,947	$22,398	$6,450	$4,489
12	$4,927	$11,582	$16,509	$23,540	$7,031	$4,718
13	$4,927	$12,173	$17,100	$24,741	$7,641	$4,959
14	$4,927	$12,794	$17,721	$26,002	$8,282	$5,212
15	$4,927	$13,446	$18,373	$27,328	$8,955	$5,478
16	$4,927	$14,132	$19,059	$28,722	$9,663	$5,757
17	$4,927	$14,852	$19,780	$30,187	$10,407	$6,051
18	$4,927	$15,610	$20,537	$31,727	$11,189	$6,359
19	$4,927	$16,406	$21,333	$33,345	$12,011	$6,684
20	$4,927	$17,243	$22,170	$35,045	$12,875	$7,024
21	$4,927	$18,122	$23,049	$36,833	$13,783	$7,383
22	$4,927	$19,046	$23,974	$38,711	$14,737	$7,759
23	$4,927	$20,018	$24,945	$40,685	$15,740	$8,155
24	$4,927	$21,039	$25,966	$42,760	$16,794	$8,571
25	$4,927	$22,112	$27,039	$44,941	$17,902	$9,008
26	$4,927	$23,239	$28,167	$47,233	$19,066	$9,467
27	$4,927	$24,425	$29,352	$49,642	$20,290	$9,950
28	$4,927	$25,670	$30,597	$52,174	$21,576	$10,458
29	$4,927	$26,979	$31,907	$54,834	$22,928	$10,991
30	$4,927	$28,355	$33,283	$57,631	$24,348	$11,552

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $74
Turnover Rate = 0.166

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$55	/sq. ft.	$33,000
Sales Tax	$2,640		$35,640
Installation Cost/sq. ft.	$19	/sq. ft.	$11,400
Installed Cost	$47,040		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$473		
Relocation Cost	$14,820	(130% of installation cost)	
Turnover Rate	0.166		
PV of Relocations	$30,362		
Operating Exp	$516		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$45,896		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$28
Insurance	$10
Replacement Reserve	$17
Management	$100
Vac. Allowance	$47
Relocation	$205
Maintenance	$50
Utilities	60
Total	$516

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$5,681	$6,193	$11,874	$13,620	$1,746	$2,460
2	$5,681	$6,509	$12,190	$14,315	$2,125	$2,586
3	$5,681	$6,841	$12,522	$15,045	$2,523	$2,717
4	$5,681	$7,190	$12,871	$15,812	$2,941	$2,856
5	$5,681	$7,557	$13,238	$16,618	$3,381	$3,002
6	$5,681	$7,942	$13,623	$17,466	$3,843	$3,155
7	$5,681	$8,347	$14,028	$18,357	$4,329	$3,316
8	$5,681	$8,773	$14,454	$19,293	$4,839	$3,485
9	$5,681	$9,220	$14,901	$20,277	$5,376	$3,663
10	$5,681	$9,691	$15,371	$21,311	$5,939	$3,849
11	$5,681	$10,185	$15,866	$22,398	$6,532	$4,046
12	$5,681	$10,704	$16,385	$23,540	$7,155	$4,252
13	$5,681	$11,250	$16,931	$24,741	$7,810	$4,469
14	$5,681	$11,824	$17,505	$26,002	$8,498	$4,697
15	$5,681	$12,427	$18,108	$27,328	$9,221	$4,936
16	$5,681	$13,061	$18,742	$28,722	$9,981	$5,188
17	$5,681	$13,727	$19,408	$30,187	$10,779	$5,453
18	$5,681	$14,427	$20,108	$31,727	$11,619	$5,731
19	$5,681	$15,163	$20,843	$33,345	$12,501	$6,023
20	$5,681	$15,936	$21,617	$35,045	$13,428	$6,330
21	$5,681	$16,749	$22,430	$36,833	$14,403	$6,653
22	$5,681	$17,603	$23,284	$38,711	$15,427	$6,992
23	$5,681	$18,501	$24,181	$40,685	$16,504	$7,349
24	$5,681	$19,444	$25,125	$42,760	$17,635	$7,724
25	$5,681	$20,436	$26,117	$44,941	$18,824	$8,117
26	$5,681	$21,478	$27,159	$47,233	$20,074	$8,531
27	$5,681	$22,573	$28,254	$49,642	$21,388	$8,967
28	$5,681	$23,725	$29,405	$52,174	$22,768	$9,424
29	$5,681	$24,935	$30,615	$54,834	$24,219	$9,904
30	$5,681	$26,206	$31,887	$57,631	$25,744	$10,410

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $74
Turnover Rate = 0.200

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$55	/sq. ft.	$33,000
Sales Tax	$2,640		$35,640
Installation Cost/sq. ft.	$19	/sq. ft.	$11,400
Installed Cost	$47,040		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$473		
Relocation Cost	$14,820	(130% of installation cost)	
Turnover Rate	0.200		
PV of Relocations	$36,580		
Operating Exp	$568		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$38,248		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$28
Insurance	$10
Replacement Reserve	$17
Management	$100
Vac. Allowance	$57
Relocation	$247
Maintenance	$50
Utilities	60
Total	$568

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$5,681	$6,813	$12,494	$13,620	$1,126	$2,964
2	$5,681	$7,160	$12,841	$14,315	$1,473	$3,115
3	$5,681	$7,526	$13,207	$15,045	$1,838	$3,274
4	$5,681	$7,909	$13,590	$15,812	$2,222	$3,441
5	$5,681	$8,313	$13,994	$16,618	$2,625	$3,617
6	$5,681	$8,737	$14,418	$17,466	$3,048	$3,801
7	$5,681	$9,182	$14,863	$18,357	$3,493	$3,995
8	$5,681	$9,651	$15,332	$19,293	$3,961	$4,199
9	$5,681	$10,143	$15,824	$20,277	$4,453	$4,413
10	$5,681	$10,660	$16,341	$21,311	$4,970	$4,638
11	$5,681	$11,204	$16,885	$22,398	$5,513	$4,874
12	$5,681	$11,775	$17,456	$23,540	$6,084	$5,123
13	$5,681	$12,376	$18,057	$24,741	$6,684	$5,384
14	$5,681	$13,007	$18,688	$26,002	$7,315	$5,659
15	$5,681	$13,670	$19,351	$27,328	$7,977	$5,947
16	$5,681	$14,367	$20,048	$28,722	$8,674	$6,251
17	$5,681	$15,100	$20,781	$30,187	$9,406	$6,569
18	$5,681	$15,870	$21,551	$31,727	$10,175	$6,904
19	$5,681	$16,680	$22,361	$33,345	$10,984	$7,256
20	$5,681	$17,530	$23,211	$35,045	$11,834	$7,627
21	$5,681	$18,424	$24,105	$36,833	$12,727	$8,016
22	$5,681	$19,364	$25,045	$38,711	$13,666	$8,424
23	$5,681	$20,352	$26,032	$40,685	$14,653	$8,854
24	$5,681	$21,390	$27,070	$42,760	$15,690	$9,306
25	$5,681	$22,480	$28,161	$44,941	$16,780	$9,780
26	$5,681	$23,627	$29,308	$47,233	$17,925	$10,279
27	$5,681	$24,832	$30,513	$49,642	$19,129	$10,803
28	$5,681	$26,098	$31,779	$52,174	$20,394	$11,354
29	$5,681	$27,429	$33,110	$54,834	$21,724	$11,933
30	$5,681	$28,828	$34,509	$57,631	$23,122	$12,542

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $74
Turnover Rate = 0.250

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$55	/sq. ft.	$33,000
Sales Tax	$2,640		$35,640
Installation Cost/sq. ft.	$19	/sq. ft.	$11,400
Installed Cost	$47,040		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$473		
Relocation Cost	$14,820	(130% of installation cost)	
Turnover Rate	0.250		
PV of Relocations	$45,725		
Operating Exp	$644		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$27,002		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$28
Insurance	$10
Replacement Reserve	$17
Management	$100
Vac. Allowance	$71
Relocation	$309
Maintenance	$50
Utilities	60
Total	$644

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$5,681	$7,724	$13,405	$13,620	$215	$3,705
2	$5,681	$8,118	$13,799	$14,315	$516	$3,894
3	$5,681	$8,532	$14,213	$15,045	$832	$4,093
4	$5,681	$8,967	$14,648	$15,812	$1,164	$4,301
5	$5,681	$9,425	$15,106	$16,618	$1,513	$4,521
6	$5,681	$9,905	$15,586	$17,466	$1,880	$4,751
7	$5,681	$10,411	$16,091	$18,357	$2,265	$4,993
8	$5,681	$10,941	$16,622	$19,293	$2,671	$5,248
9	$5,681	$11,499	$17,180	$20,277	$3,096	$5,516
10	$5,681	$12,086	$17,767	$21,311	$3,544	$5,797
11	$5,681	$12,702	$18,383	$22,398	$4,015	$6,093
12	$5,681	$13,350	$19,031	$23,540	$4,509	$6,404
13	$5,681	$14,031	$19,712	$24,741	$5,029	$6,730
14	$5,681	$14,747	$20,427	$26,002	$5,575	$7,073
15	$5,681	$15,499	$21,180	$27,328	$6,149	$7,434
16	$5,681	$16,289	$21,970	$28,722	$6,752	$7,813
17	$5,681	$17,120	$22,801	$30,187	$7,386	$8,212
18	$5,681	$17,993	$23,674	$31,727	$8,053	$8,630
19	$5,681	$18,911	$24,591	$33,345	$8,753	$9,071
20	$5,681	$19,875	$25,556	$35,045	$9,489	$9,533
21	$5,681	$20,889	$26,570	$36,833	$10,263	$10,019
22	$5,681	$21,954	$27,635	$38,711	$11,076	$10,530
23	$5,681	$23,074	$28,754	$40,685	$11,931	$11,067
24	$5,681	$24,250	$29,931	$42,760	$12,829	$11,632
25	$5,681	$25,487	$31,168	$44,941	$13,773	$12,225
26	$5,681	$26,787	$32,468	$47,233	$14,765	$12,849
27	$5,681	$28,153	$33,834	$49,642	$15,808	$13,504
28	$5,681	$29,589	$35,270	$52,174	$16,904	$14,193
29	$5,681	$31,098	$36,779	$54,834	$18,056	$14,916
30	$5,681	$32,684	$38,365	$57,631	$19,266	$15,677

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES

08-Dec-89

Total Installed Cost/sq. ft. $89
Turnover Rate = 0.166

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$63	/sq. ft.	$37,800
Sales Tax	$3,024		$40,824
Installation Cost/sq. ft.	$26	/sq. ft.	$15,600
Installed Cost	$56,424		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$568		
Relocation Cost	$20,280	(130% of installation cost)	
Turnover Rate	0.166		
PV of Relocations	$41,547		
Operating Exp	$598		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$24,633		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$32
Insurance	$10
Replacement Reserve	$19
Management	$100
Vac. Allowance	$47
Relocation	$281
Maintenance	$50
Utilities	60
Total	$598

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$6,814	$7,177	$13,991	$13,620	($371)	$3,366
2	$6,814	$7,543	$14,357	$14,315	($42)	$3,538
3	$6,814	$7,927	$14,741	$15,045	$303	$3,719
4	$6,814	$8,331	$15,146	$15,812	$666	$3,908
5	$6,814	$8,756	$15,570	$16,618	$1,048	$4,108
6	$6,814	$9,203	$16,017	$17,466	$1,449	$4,317
7	$6,814	$9,672	$16,486	$18,357	$1,870	$4,537
8	$6,814	$10,166	$16,980	$19,293	$2,313	$4,769
9	$6,814	$10,684	$17,498	$20,277	$2,779	$5,012
10	$6,814	$11,229	$18,043	$21,311	$3,268	$5,267
11	$6,814	$11,802	$18,616	$22,398	$3,782	$5,536
12	$6,814	$12,403	$19,218	$23,540	$4,322	$5,818
13	$6,814	$13,036	$19,850	$24,741	$4,890	$6,115
14	$6,814	$13,701	$20,515	$26,002	$5,487	$6,427
15	$6,814	$14,400	$21,214	$27,328	$6,115	$6,755
16	$6,814	$15,134	$21,948	$28,722	$6,774	$7,099
17	$6,814	$15,906	$22,720	$30,187	$7,467	$7,461
18	$6,814	$16,717	$23,531	$31,727	$8,195	$7,842
19	$6,814	$17,570	$24,384	$33,345	$8,961	$8,242
20	$6,814	$18,466	$25,280	$35,045	$9,765	$8,662
21	$6,814	$19,407	$26,222	$36,833	$10,611	$9,104
22	$6,814	$20,397	$27,211	$38,711	$11,500	$9,568
23	$6,814	$21,437	$28,252	$40,685	$12,434	$10,056
24	$6,814	$22,531	$29,345	$42,760	$13,415	$10,569
25	$6,814	$23,680	$30,494	$44,941	$14,447	$11,108
26	$6,814	$24,887	$31,702	$47,233	$15,531	$11,675
27	$6,814	$26,157	$32,971	$49,642	$16,671	$12,270
28	$6,814	$27,491	$34,305	$52,174	$17,869	$12,896
29	$6,814	$28,893	$35,707	$54,834	$19,127	$13,554
30	$6,814	$30,366	$37,180	$57,631	$20,451	$14,245

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $89
Turnover Rate = 0.200

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$63	/sq. ft.	$37,800
Sales Tax	$3,024		$40,824
Installation Cost/sq. ft.	$26	/sq. ft.	$15,600
Installed Cost	$56,424		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$568		
Relocation Cost	$20,280	(130% of installation cost)	
Turnover Rate	0.200		
PV of Relocations	$50,057		
Operating Exp	$665		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$14,695		

Monthly Operating Costs

ITEM	
Property taxes at @1%	$32
Insurance	$10
Replacement Reserve	$19
Management	$100
Vac. Allowance	$57
Relocation	$338
Maintenance	$50
Utilities	60
Total	$665

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$6,814	$7,982	$14,796	$13,620	($1,176)	$4,056
2	$6,814	$8,389	$15,203	$14,315	($888)	$4,263
3	$6,814	$8,817	$15,631	$15,045	($586)	$4,480
4	$6,814	$9,266	$16,080	$15,812	($269)	$4,709
5	$6,814	$9,739	$16,553	$16,618	$65	$4,949
6	$6,814	$10,236	$17,050	$17,466	$416	$5,201
7	$6,814	$10,758	$17,572	$18,357	$785	$5,467
8	$6,814	$11,306	$18,120	$19,293	$1,172	$5,745
9	$6,814	$11,883	$18,697	$20,277	$1,580	$6,038
10	$6,814	$12,489	$19,303	$21,311	$2,008	$6,346
11	$6,814	$13,126	$19,940	$22,398	$2,458	$6,670
12	$6,814	$13,795	$20,609	$23,540	$2,931	$7,010
13	$6,814	$14,499	$21,313	$24,741	$3,428	$7,368
14	$6,814	$15,238	$22,052	$26,002	$3,950	$7,743
15	$6,814	$16,015	$22,830	$27,328	$4,499	$8,138
16	$6,814	$16,832	$23,646	$28,722	$5,076	$8,553
17	$6,814	$17,691	$24,505	$30,187	$5,682	$8,990
18	$6,814	$18,593	$25,407	$31,727	$6,320	$9,448
19	$6,814	$19,541	$26,355	$33,345	$6,989	$9,930
20	$6,814	$20,538	$27,352	$35,045	$7,693	$10,436
21	$6,814	$21,585	$28,399	$36,833	$8,433	$10,969
22	$6,814	$22,686	$29,500	$38,711	$9,211	$11,528
23	$6,814	$23,843	$30,657	$40,685	$10,028	$12,116
24	$6,814	$25,059	$31,873	$42,760	$10,887	$12,734
25	$6,814	$26,337	$33,151	$44,941	$11,790	$13,383
26	$6,814	$27,680	$34,494	$47,233	$12,739	$14,066
27	$6,814	$29,092	$35,906	$49,642	$13,736	$14,783
28	$6,814	$30,576	$37,390	$52,174	$14,784	$15,537
29	$6,814	$32,135	$38,949	$54,834	$15,885	$16,330
30	$6,814	$33,774	$40,588	$57,631	$17,043	$17,162

GRANNY FLAT PRO-FORMA
RENTAL CASE - RELOCATION COSTS AS OPERATING EXPENSES
Total Installed Cost/sq. ft. $89
Turnover Rate = 0.250

08-Dec-89

Unit Size	600	sq. ft.	Total
Construction Cost/sq. ft.	$63	/sq. ft.	$37,800
Sales Tax	$3,024		$40,824
Installation Cost/sq. ft.	$26	/sq. ft.	$15,600
Installed Cost	$56,424		
Amortization=	30		
Market Interest Rate	12.00%		
Assisted Interest Rate	12.00%		
Monthly Payment	$568		
Relocation Cost	$20,280	(130% of installation cost)	
Turnover Rate	0.250		
PV of Relocations	$62,571		
Operating Exp	$764		
Inflation	5.1%		
Cost Recovery Rent	$1,135		
PV of Net Profits	$79		

Monthly Operating Costs

ITEM	
Property taxes at 01%	$32
Insurance	$10
Replacement Reserve	$19
Management	$100
Vac. Allowance	$71
Relocation	$423
Maintenance	$50
Utilities	60
Total	$764

Year	Debt Service	Operating Expenses	Total Costs	Rental Revenue	Net Profit	Relocation Costs
1	$6,814	$9,166	$15,980	$13,620	($2,360)	$5,070
2	$6,814	$9,634	$16,448	$14,315	($2,133)	$5,329
3	$6,814	$10,125	$16,939	$15,045	($1,894)	$5,600
4	$6,814	$10,641	$17,455	$15,812	($1,643)	$5,886
5	$6,814	$11,184	$17,998	$16,618	($1,380)	$6,186
6	$6,814	$11,754	$18,568	$17,466	($1,103)	$6,502
7	$6,814	$12,354	$19,168	$18,357	($811)	$6,833
8	$6,814	$12,984	$19,798	$19,293	($505)	$7,182
9	$6,814	$13,646	$20,460	$20,277	($183)	$7,548
10	$6,814	$14,342	$21,156	$21,311	$155	$7,933
11	$6,814	$15,073	$21,887	$22,398	$510	$8,337
12	$6,814	$15,842	$22,656	$23,540	$884	$8,763
13	$6,814	$16,650	$23,464	$24,741	$1,276	$9,210
14	$6,814	$17,499	$24,313	$26,002	$1,689	$9,679
15	$6,814	$18,392	$25,206	$27,328	$2,123	$10,173
16	$6,814	$19,330	$26,144	$28,722	$2,578	$10,692
17	$6,814	$20,315	$27,130	$30,187	$3,058	$11,237
18	$6,814	$21,352	$28,166	$31,727	$3,561	$11,810
19	$6,814	$22,440	$29,255	$33,345	$4,090	$12,412
20	$6,814	$23,585	$30,399	$35,045	$4,646	$13,045
21	$6,814	$24,788	$31,602	$36,833	$5,231	$13,711
22	$6,814	$26,052	$32,866	$38,711	$5,845	$14,410
23	$6,814	$27,381	$34,195	$40,685	$6,491	$15,145
24	$6,814	$28,777	$35,591	$42,760	$7,169	$15,917
25	$6,814	$30,245	$37,059	$44,941	$7,882	$16,729
26	$6,814	$31,787	$38,601	$47,233	$8,632	$17,582
27	$6,814	$33,408	$40,222	$49,642	$9,420	$18,479
28	$6,814	$35,112	$41,926	$52,174	$10,247	$19,421
29	$6,814	$36,903	$43,717	$54,834	$11,118	$20,412
30	$6,814	$38,785	$45,599	$57,631	$12,032	$21,453